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No. 332

Issued Semi-Monthly

June 15, 1920

OREGON AGRICULTURAL COLLEGE BULLETIN



College Catalogue, 1920-21

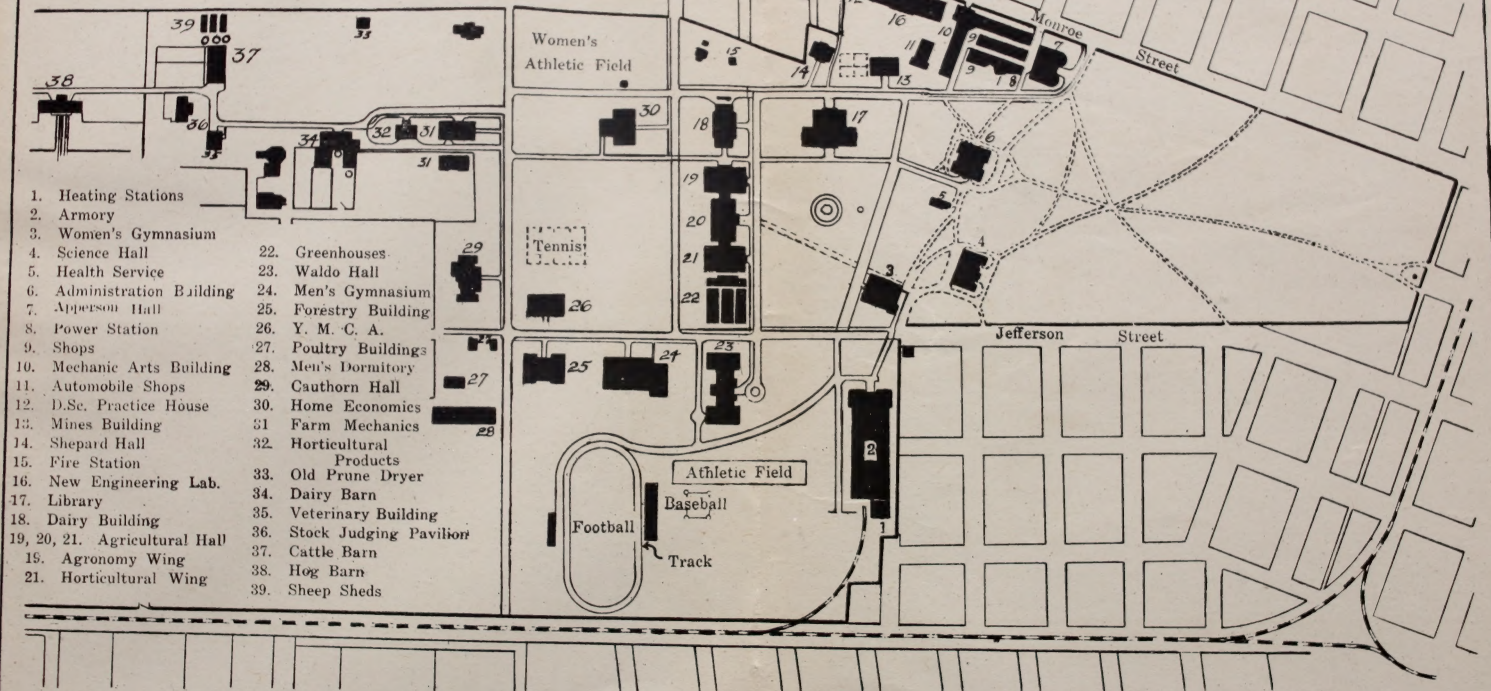
With List of Students for 1919-20

CORVALLIS, OREGON





Oregon Agricultural College Campus, 1920



OREGON AGRICULTURAL COLLEGE

CATALOGUE 1920-21

CATALOGUE

OF THE

Oregon Agricultural College

FOR

1920-21

With List of Students for 1919-20



CORVALLIS, OREGON

June 15, 1920

O. A. C. PRESS
1920

NOTICE TO MEN STUDENTS

DEPOSIT FOR MILITARY UNIFORM. DURING THE YEAR 1920-21 A DEPOSIT OF \$10.00 WILL BE REQUIRED OF ALL MEN REGISTERING. THIS DEPOSIT WILL BE REFUNDED ON THE PRESENTATION OF A CERTIFICATE EXEMPTING A STUDENT FROM MILITARY INSTRUCTION OR A CERTIFICATE FROM THE MILITARY DEPARTMENT SHOWING THAT ALL MILITARY CLOTHING CHARGED TO HIM HAS BEEN TURNED IN OR PAID FOR.

OPTIONS IN MILITARY SCIENCE AND TACTICS. NEWLY ENROLLED STUDENTS MAY ENTER ANY ONE OF THE UNITS, INFANTRY, FIELD ARTILLERY, ENGINEERING, MOTOR TRANSPORT, OR CAVALRY. THE WAR DEPARTMENT REGULATIONS, HOWEVER, PRESCRIBE A DEFINITE PERCENTAGE OF STUDENTS FOR EACH UNIT, AND AFTER THE PRESCRIBED LIMIT IS REACHED IN ANY ONE UNIT STUDENTS MUST BE ASSIGNED TO ONE OF THE REMAINING UNITS. STUDENTS ALREADY ENROLLED IN A SPECIAL UNIT ARE REQUIRED TO CONTINUE IN THAT UNIT THROUGHOUT THE REMAINDER OF THEIR COURSE OF TRAINING IN THE DEPARTMENT OF MILITARY SCIENCE AND TACTICS.

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CALENDAR 1920-1921

1920

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| <p>JULY</p> <p>..... 1 2 3</p> <p>4 5 6 7 8 9 10</p> <p>11 12 13 14 15 16 17</p> <p>18 19 20 21 22 23 24</p> <p>25 26 27 28 29 30 31</p> <p>.....</p> | <p>AUGUST</p> <p>1 2 3 4 5 6 7</p> <p>8 9 10 11 12 13 14</p> <p>15 16 17 18 19 20 21</p> <p>22 23 24 25 26 27 28</p> <p>29 30 31</p> <p>.....</p> | <p>SEPTEMBER</p> <p>..... 1 2 3 4</p> <p>5 6 7 8 9 10 11</p> <p>12 13 14 15 16 17 18</p> <p>19 20 21 22 23 24 25</p> <p>26 27 28 29 30</p> <p>.....</p> |
| <p>OCTOBER</p> <p>..... 1 2</p> <p>3 4 5 6 7 8 9</p> <p>10 11 12 13 14 15 16</p> <p>17 18 19 20 21 22 23</p> <p>24 25 26 27 28 29 30</p> <p>31</p> <p>.....</p> | <p>NOVEMBER</p> <p>.... 1 2 3 4 5 6</p> <p>7 8 9 10 11 12 13</p> <p>14 15 16 17 18 19 20</p> <p>21 22 23 24 25 26 27</p> <p>28 29 30</p> <p>.....</p> | <p>DECEMBER</p> <p>..... 1 2 3 4</p> <p>5 6 7 8 9 10 11</p> <p>12 13 14 15 16 17 18</p> <p>19 20 21 22 23 24 25</p> <p>26 27 28 29 30 31....</p> <p>.....</p> |

1921

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| <p>JANUARY</p> <p>..... 1</p> <p>2 3 4 5 6 7 8</p> <p>9 10 11 12 13 14 15</p> <p>16 17 18 19 20 21 22</p> <p>23 24 25 26 27 28 29</p> <p>30 31</p> <p>.....</p> | <p>FEBRUARY</p> <p>..... 1 2 3 4 5</p> <p>6 7 8 9 10 11 12</p> <p>13 14 15 16 17 18 19</p> <p>20 21 22 23 24 25 26</p> <p>27 28</p> <p>.....</p> | <p>MARCH</p> <p>..... 1 2 3 4 5</p> <p>6 7 8 9 10 11 12</p> <p>13 14 15 16 17 18 19</p> <p>20 21 22 23 24 25 26</p> <p>27 28 29 30 31</p> <p>.....</p> |
| <p>APRIL</p> <p>..... 1 2</p> <p>3 4 5 6 7 8 9</p> <p>10 11 12 13 14 15 16</p> <p>17 18 19 20 21 22 23</p> <p>24 25 26 27 28 29 30</p> <p>.....</p> <p>.....</p> | <p>MAY</p> <p>1 2 3 4 5 6 7</p> <p>8 9 10 11 12 13 14</p> <p>15 16 17 18 19 20 21</p> <p>22 23 24 25 26 27 28</p> <p>29 30 31</p> <p>.....</p> | <p>JUNE</p> <p>..... 1 2 3 4</p> <p>5 6 7 8 9 10 11</p> <p>12 13 14 15 16 17 18</p> <p>19 20 21 22 23 24 25</p> <p>26 27 28 29 30</p> <p>.....</p> |

COLLEGE CALENDAR

1920

SEPTEMBER 20, 21, *Monday, Tuesday*Registration

SEPTEMBER 22, *Wednesday* Recitations begin

OCTOBER 8, *Friday* Meeting of Board of Regents

NOVEMBER 25, 26, 27, *Thursday, Friday, Saturday*.....

..... Thanksgiving recess

DECEMBER 18, *Saturday*..First term ends; Christmas recess begins

1921

JANUARY 3, Monday

.....Second term begins; Winter Short Courses begin

JANUARY 5, *Wednesday* Meeting of Board of Regents

JANUARY 29, *Saturday* Winter Short Courses end

FEBRUARY 22, *Tuesday* Washington's birthday; holiday

MARCH 19, *Saturday*Second term ends; Spring vacation begins

MARCH 28, *Monday* Third term begins

APRIL 6, *Wednesday* Meeting of Board of Regents

MAY —, Military Inspection Day

MAY 30, *Monday* Decoration Day; holiday

JUNE 4, *Saturday*.....Last day of recitations for third term

JUNE 6-11, *Monday to Saturday* Final Examinations

JUNE 11, *Saturday* Senior Class Day; Alumni Reunion

JUNE 12, Sunday **Baccalaureate Sermon**

JUNE 13, *Monday* Fifty-second Annual Commencement

JUNE 20, Monday.....Summer Session begins

JULY 30, *Saturday* Summer Session ends

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Term
expires

| | |
|-----------------------------|-----------------|
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| HON. GEO. M. CORNWALL..... | Portland, 1921 |
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| HON. N. R. MOORE..... | Corvallis, 1924 |
| HON. JEFFERSON MYERS | Portland, 1924 |
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OREGON AGRICULTURAL COLLEGE

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ANTON EVERETT JENSEN,
Instructor in Farm Mechanics.

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Instructor in Mechanical Engineering.

GLENN HARTMAN HILL,
Instructor in Machine Shops.

DONALD KENNETH MEREEN,
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ARDIS THOMAS MONK, B.S.,
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CLAIR WILKES, B.S.,
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ALFRED WEAVER OLIVER, B.S.,
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RUTH WININGER,
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LULA LYTTE MAY, B.S.,
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ETHEL TAYLOR, A.B.,
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RALPH COLEMAN, B.S.,
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Research Assistant in Horticulture and Entomology.

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WILLIAM WATERS JOHNSTON, B.S.,
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MERRILL OLIVER RAWSON, Ph.C., B.S.,
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JOHN RICHARD NEVIUS, B.S.,
Instructor in Farm Crops.

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Secretary to the Dean of Commerce.

MYRTLE BURNAP, B.S.,
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ZELTA FERN FEIKE, B.S.,
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FRANK L. ROBINSON,

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IVAN FREDERICK WATERMAN, B.S.,

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GEORGE REUBEN VARNEY, A.B., D.D.,

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WILLIAM DOUGLAS PINE, B.S.,

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JOSEPH WARREN SEVERY, A.B.,

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FRANK ELWOOD KNOWLES, M.A.,

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HARRY PALMER CADY, B.S.,

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BENJAMIN HATCH NICHOLS, B. S.,
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HALBERT EDGERTON SELBY, B.S.,
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MCKINLEY HELM, B.S.,
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CLAUDE MILTON NEWLIN, A.B.,
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ROBERT W. UPHOFF, A.B.,
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BURDETTE GLENN, B.S.,
Instructor in Civil Engineering.

LOIS JOHNSON RANKIN,
Instructor in Physical Education for Women.

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FREDERICK HENRY BERNES,
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OREGON AGRICULTURAL COLLEGE

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Instructor in Home Economics Education; Critic Teacher.

ELSA OTILLIA HORN, B.A.,
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VIOLA DINGER,
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LOCHE MARDIS, B.S.,
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MAIME MARTENS, B.S.,
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EARL GEORGE MASON, B. S.,
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MINNIE D. FRICK,
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ELYNORE SWEENEY, B.S.,
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OTTO MOLLER,
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BURT ELMER WOODY,
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Regimental Supply Sergeant, Infantry, U. S. Army, Assistant to Professor of Military Science and Tactics.

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Research Fellow in Horticulture.

JAMES OWEN FOLEY, B.S.,

Teaching Fellow in Zoology and Physiology.

PENNOYER FRANCIS ENGLISH, B.S.,

Teaching Fellow in Zoology.

SUPERINTENDENTS OF BRANCH EXPERIMENT STATIONS

EASTERN OREGON BRANCH EXPERIMENT STATION

ROBERT WITHYCOMBE, B.S.,
Union.

UMATILLA BRANCH EXPERIMENT STATION

HAROLD KARL DEAN, B.S.,
Hermiston.

SHERMAN COUNTY DRY-FARM BRANCH EXPERIMENT STATION

DAVID EDMUND STEPHENS, B.S.,
Moro.

SOUTHERN OREGON BRANCH EXPERIMENT STATION

FRANK CHARLES REIMER, M.S.,
Talent.

HARNEY VALLEY BRANCH EXPERIMENT STATION

OBIL SHATTUCK, M.S.,
Burns.

JOHN JACOB ASTOR BRANCH EXPERIMENT STATION

ALBERT EDWARD ENGBRETSON, B.S.,
Astoria.

HOOD RIVER BRANCH EXPERIMENT STATION

LEROY CHILDS, B.S.,
Entomologist, Experiment Station,

GORDON GEORGE BROWN, B.S.,
Horticulturist, Experiment Station,
Hood River.

COUNTY AGRICULTURAL AGENTS*

FRED BENNION, A.B.,
Umatilla County.

LEROY BREITHAUP, B.S.,
Malheur County.

PAUL CARPENTER,
Polk County.

CLAUDE CLIFTON CATE, B.S.,
Jackson County.

CLAUDE CLARK CALKINS, B.S.,
Sherman County.

JOHN EDWARD COOTER, B.S.,
Lincoln County.

CHESTER CARROLL FARR, B.S.,
Coos County.

THOMAS JOSEPH FLIPPIN, B.S.,
Columbia County.

SYLVESTER BENJAMIN HALL, B.S.,
Multnomah County.

LAWRENCE ALVA HUNT,
Morrow County.

EDWIN RUSSELL JACKMAN, B.S.,
Wasco County.

DWIGHT LYMAN JAMISON, B.S.,
Deschutes County.

ROY CARROLL JONES, B.S.,
Tillamook County.

GEORGE WALLACE KABLE, B.S.,
Benton County.

* Names arranged in alphabetical order.

HERWEGH JOSEPH LECHNER, B.S.,
Clatsop County.

LEWIS EDWARD MCDANIELS,
Harney County.

ROY EDMUND MILLER, M.S.,
Josephine County.

RICHARD GORDON SCOTT, A.B.,
Clackamas County.

STANLEY VAN SMITH, B.S.,
Linn County.

PAUL HERMAN SPILLMAN, B.S.,
Union County.

WILLIAM LEROY TEUTSCH, B.S.,
Lake County.

EDGAR H. THOMAS, B.S.,
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Josephine County.

ELLA MAY HARMON, B.S.,
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MINNIE KALBUS, B.S.,
Coos County.

FLORENCE ELDORA POOL, B.S.,
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NORMA OLSON,
Benton County.

COUNTY CLUB LEADERS *

ETHEL IRENE CALKINS,
Multnomah County.

THOMAS DE FOREST KIRKPATRICK, L.B.,
City of Portland.

FRANK WILLIAM SEXTON,
Klamath County.

ANDREW ERVIN STREET,
Douglas County.

ROMNEY PEARLE SNEDEKER,
Clackamas County.

* Names arranged in alphabetical order.

GENERAL INFORMATION

FOUNDATION AND ENDOWMENT

By an Act of Congress, approved by President Lincoln, July 2, 1862, a grant of land to the amount of thirty thousand acres, or its equivalent, was made to each state in the Union for each senator and representative in Congress to which the state was entitled by the apportionment of the census of 1860. The proceeds under this Act were to constitute a perpetual fund. The principal of this fund was to remain forever undiminished; but the interest arising from the fund was to be inviolably applied by each state that should avail itself of the benefits of the Act to the support and maintenance of a "college where the leading objects shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the states may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life." Ninety thousand acres of land were apportioned to Oregon; and by an Act approved October 9, 1862, the Legislative Assembly of Oregon accepted the provisions of the Congressional law.

HISTORY

As there were no state colleges in Oregon in 1868, the legislature of that year, which provided for the location of the land received under the Act of 1862, gave the interest on the funds derived from the sale of the land to the Corvallis College, a private institution in Benton county, which was then under the control of the Methodist Episcopal Church, South. For a number of years, none of the land granted was sold, and the legislature made small annual appropriations for the support of the institution.

In 1885, the church voluntarily relinquished its claim on the funds of the College, and the State assumed entire control of the institution. The legislature of that year provided for the "permanent location of the State Agricultural College at Corvallis, in Benton county," on the condition that the citizens of said county should, within four years, erect on the "farm containing thirty-five acres in the immediate vicinity of said city, known as the Agricultural College Farm, brick buildings for the accommodation of said State Agricultural College, at a cost of not less than \$20,000." During the summer of

1887, the cornerstone of the building erected by the citizens of Benton county was laid by the Governor of Oregon amid impressive ceremonies.

This structure, now known as the Administration Building, was the nucleus around which other buildings soon began to cluster, as necessity and growing interest demanded. For a year or two there was ample room; but, as the institution grew, more land was needed and provided, and the institution now owns, as compared with the thirty-five acres originally comprising the campus and grounds, three hundred forty-nine acres; and as compared with one structure, thirty-eight. There has also been a marked increase in the attendance, from ninety-seven to over four thousand students. Twenty years ago, most of the students came from Benton and neighboring counties. Today, every county in Oregon, 33 other states and 11 territories and foreign countries are represented. The increase in the number of students called for an increase in the number of the faculty. This body, from the number of five in 1884, has grown until it now numbers about two hundred fifty. Other features usually found in connection with progressive educational institutions have grown in equal ratio. The courses have been strengthened, the standards, both for entrance and graduation, have been advanced, and other improvements have been made from time to time, which have added to the thoroughness and efficiency of the work.

ORGANIZATION

The Oregon Agricultural College is organized into the three grand divisions that characterize the work of the land-grant colleges throughout the country; namely, Resident Instruction, Experiment Station, and Extension Service. Resident Instruction, which includes all work of teaching students at the institution, is the most distinctive feature of the College life. It has always been regarded as of first importance, and will doubtless continue to be so regarded, in spite of the increasing usefulness of extension work. The Experiment Station, through systematic experiments, investigation, and research, is engaged in a search for fundamental truth. Its work is of great importance; for without it, the work of the other two grand divisions would soon become sterile and ineffective. The Extension Service, which is the newest of the three grand divisions of the College, includes all means of imparting the message of the College to the people in their own communities. It is virtually an effort to make practical and more or less immediate application throughout the State of the available truths worked out by the Experiment Station or used for resident instruction.

GOVERNMENT

The general government of the College is vested primarily in the Board of Regents, and, under their control, in four other administrative bodies—the Administrative Council, the College Council, the Faculty, and the staffs of the Experiment Station and Extension Service. These bodies, in the exercise of their respective duties, determine the questions of policy and regulate all matters relating to the interests of the institution.

The Board of Regents consists of thirteen members, of whom the Governor, the Secretary of State, the Superintendent of Public Instruction, and the Master of the State Grange, are ex-officio members. The nine other members are appointed by the Governor with the approval of the State senate, and hold office for a term of nine years. Under a law of the State legislature, passed in 1885, the Board of Regents constitutes a body corporate, under the name of "The Board of Regents of the State Agricultural College, * * * with power to sue and be sued, and to make contracts," and to enact such regulations as may be necessary for the maintenance and development of the College.

The Administrative Council consists of the President of the College, the Director of the Experiment Station, the Director of Extension Service, and the deans. The function of this Council is to consider and determine the larger questions of policy and administration.

The College Council is composed of the President of the College and all officers of administration and instruction with the rank of professor, associate professor, or assistant professor. This body considers all general questions relating to the educational work and policy of the College; arranges and correlates the courses of study, and determines the requirements for admission and graduation. The different committees of the College Council, representing the several schools of instruction, have charge of the enrollment and progress of students in the respective schools, and investigate the records of all candidates for graduation.

The College Faculty comprises members of the Administrative Council and the College Council and all other instructors, including members of the Experiment Station and Extension Service staffs. It considers routine questions of method and discipline, a function for which it is particularly well adapted, being in close contact with all that pertains to student interests and student life.

The Experiment Station Staff includes the President of the College, the Director of the Experiment Station, the Secretary of the Experiment Station, the heads of the various departments of the

School of Agriculture, and all assistants engaged in research and experimental work. The members of this staff are engaged in the investigation of problems encountered in the development of the agricultural interests of the State. They also distribute, by correspondence, circulars, and station bulletins, information regarding their investigations.

The Extension Service Staff includes the President of the College, the Director of Extension Service, the Secretary of Extension Service, the State Leader of County Agents, the county agents, the officers in charge of Boys' and Girls' Club Work, extension field specialists in Horticulture, Dairy and Animal Husbandry, Agronomy, Poultry Husbandry, Organization and Markets, Highway Engineering, Home Economics, Farm Management Demonstrations, and members of the Resident Instruction Staff and Experiment Station Staff who assist in extension work.

Dean of Women. The position of the Dean of Women is administrative, supervisory, and advisory. It is the duty and privilege of the Dean of Women to know each girl so well that she may be of the greatest possible help and inspiration to her as adviser, counselor, and friend. The position covers the problems of living and social conditions, student employment, vocational guidance, and all problems which touch the young women's lives while they are in college.

The Student Affairs Committee, composed of members of the faculty, is designed to look after those interests of the students which are not strictly academic in character. It assists students in working out their social problems. It helps to maintain a wholesome relationship between clubs and fraternities and the College. It is prepared to assist student organizations in all their financial dealings. In short, the committee strives to bring about those conditions which will make the student's college life of the greatest profit to him.

Adviser for Freshman Class. In order that freshman students may become acquainted early in their college life with student-body regulations and traditions and with college ideals, and that they may be more quickly welded into an effective class organization, a member of the faculty has been appointed adviser for the Freshman Class. He advises them in the selection of special studies and in such other ways as may be of assistance to them.

The Students. The College does not undertake to prescribe in detail either its requirements or prohibitions. Students are met on a plane of mutual regard and helpfulness. Since the advantages of the institution are provided at public expense, the students are under special obligation to perform faithfully all their duties, not only to the College, but also to the community and to the State. Whenever

the deportment of any student is such that his influence is inimical to the interests of the institution, he will be relieved from further attendance.

PURPOSE AND SCOPE

The purpose of the College is to provide, in accordance with the acts of Congress under which it is maintained, a liberal, thorough, and practical education—an education that will afford the training required for efficient service in different branches of industry. The distinctive technical work covers the three great fields of production, manufacture, and commerce. Special attention is given to the application of science. All the practical work in the laboratories, in the shops, in the orchards, and on the farm, is based on scientific principles. While the industrial or technical work is emphasized, the importance of a thorough general training, of mind development, and of culture, is recognized in all the work of the institution. The object is to meet the demand for a broad and general education, supplemented by special technical training.

The work, therefore, covers a broad field, including technical courses in the different phases of agriculture, forestry, home economics, engineering, mining, commerce, pharmacy, industrial education, and industrial arts; with the necessary training in the basic subjects of mathematics and the natural and physical sciences; and also the general training in language, literature, history, economics, political science, civics, military tactics, and physical education, which constitutes an essential part of a liberal education.

LOCATION

The seat of the Oregon Agricultural College is Corvallis, a city of 6,500 inhabitants, situated at the head of navigation on the Willamette River. As the name implies, it is in the heart of the Willamette Valley, famous for its varied and abundant resources.

It is readily accessible by steam and electric railway from all parts of the State, the main-line Southern Pacific steam trains all connecting with Corvallis, and both the "West-side" Electric and the Oregon Electric trains running into the city. In addition to these north-and-south railways, an east-and-west railway running through the city connects the College with the Cascade Mountains on the east and the ocean, at Newport, on the west. Corvallis has free mail delivery, excellent paved streets, good schools, many churches, attractive residences, a modern sewer system, and a first-class gravity water system supplied from the springs on the slopes of Mary's Peak, the tallest mountain in the Coast Range, sixteen miles to the west.

Situated on high, well-drained land, open to the invigorating sea-breeze, Corvallis is one of the most healthful cities in Oregon. The climate is remarkably equable, and severe storms are almost unknown, summer or winter. The average annual temperature for 28 years (1890-1918) is 55.01 degrees Fahrenheit, and the average annual rainfall for the same period is 42.76 inches. The lowest temperatures for the five years 1914 to 1918 were respectively 13, 21, 8, 14, and 19 degrees Fahrenheit in December and January; and the highest temperatures for the same years, in July and August, were respectively, 100, 97, 99, 103, and 99 degrees Fahrenheit.

The glens and gorges of the Coast Range, beginning only a few miles west of Corvallis, the distant splendor of the Cascades, 60 miles to the eastward, with their wealth of trees and the perennially snow-capped peaks—Hood, Jefferson, and the Three Sisters—present a constant panorama of picturesque mountain scenery. With such an environment, Corvallis is an ideal location for a college and a home.

GROUNDS AND BUILDINGS

The College Grounds comprise three hundred forty-nine acres. That part of the grounds, ninety-one acres in extent, lying immediately about the several buildings, east of Cauthorn Avenue, and usually designated as the lawns and campus, is tastefully planted with both native, exotic, and ornamental trees, shrubs, and herbs. The one hundred forty-three acres used for the farm, garden, and orchard operations are so plotted and planted as to meet the demands of the various lines of work and still conform to a general scheme of landscape embellishment. This portion occupies a slightly elevated and gently undulating site wholly within the western limits of the city of Corvallis. Broad drives and walks traverse the campus in all directions, thus rendering every objective point easily accessible.

In addition to the above plot, one hundred fifteen acres, comprising the College south farm, including the horticultural and poultry tracts, lie just south of the city limits.

The following brief descriptions will convey a general idea of the principal buildings and the purposes for which they are used:

The Administration Building is a three-story brick structure, 90x120 feet, containing recitation rooms of the English department, the offices of the President, the Registrar, the Business Manager, the department of Industrial Journalism, the Barometer, and the Director of the School of Music. Centrally located and on a slight eminence, it commands an unsurpassed view of the campus, the city of Corvallis, and the picturesque Cascades.

Science Hall, situated southeast of the Administration Building, and constructed of gray granite and sandstone, covers a ground space of 85x125 feet, has three stories and basement, and contains fifty-five rooms. It is one of the most serviceable buildings on the grounds, and within it are housed the departments of Chemistry and Pharmacy, with their various laboratories, recitation rooms, and lecture halls, together with the offices and laboratories of the Experiment Station chemists.

Agricultural Hall, standing southwest of the Administration Building, is the largest structure on the campus. It is an imposing edifice of brick and sandstone, consisting of the central or administrative section, the north or Agronomy wing, and the south or Horticultural wing.

The central section is 66x140 feet, four stories and basement, and contains conveniently arranged and well lighted class rooms, laboratories, and offices. On the first floor are the offices of the Director of the Experiment Station and the Dean of the School of Agriculture, the Director of the Extension Service, the State Leader of County Agriculturists, the State Leader of Industrial Clubs, with their several branches, the Editor of Publications, and the College Exchange. The second floor is occupied by the department of Animal Husbandry and the School of Commerce; the third floor, by the departments of Zoology and Entomology with their respective museums; and the fourth floor, by the departments of Bacteriology and Art.

The north or Agronomy wing is 72x130 feet, three stories high. It is thoroughly modern in all its equipment, and while intended solely for the work in Agronomy, at present accommodates also, temporarily, the School of Commerce. The first and second floors, occupied by the departments of Soils, Farm Management, Farm Crops, and Drainage and Irrigation, contain, in addition to the offices of these departments, rooms variously devoted to laboratory and class purposes. All of the third floor and office rooms on the second floor are used by the School of Commerce.

The south or Horticultural wing is 72x130 feet, three stories high. In the basement are located laboratories for plant propagation, spraying, vegetable preparation, and fruit packing. The basement also contains the general storage rooms for the department, and rooms which are especially adapted for the storage of fruits. The first floor contains the offices of the department of Horticulture, the research laboratory, systematic pomology laboratory, and three large lecture rooms. The second floor contains the offices and museums of the department of Botany and Plant Pathology, recitation rooms and

student laboratories. The third floor contains the horticultural museum and horticultural herbarium, photograph room, large student lecture room, drafting rooms, lecture rooms, and office of the landscape gardening section. These rooms are all especially well lighted and contain modern conveniences for conducting the work with efficiency.

The Library Building. The new Library Building is located south of the Mines Building. It consists of two stories and basement in front and three stories and basement at the back. It is built of red brick and gray terra cotta, presenting a quiet and dignified appearance, in keeping with the use, fundamental to education, to which it is put. The most modern and effective system of lighting, heating, and ventilating is installed.

The first floor consists of an entrance hall, two large lecture rooms for the use of one-credit and other classes too large to be accommodated by the class room of ordinary size; on this floor are the cloak rooms for the use of students. The second and third floors at the front are occupied by the main reading room, ample to seat over three hundred for reference work. Back of this room on the second floor are the offices, cataloguing, and other work rooms. The third floor consists of comparatively small rooms designed ultimately for seminar rooms for the use of such departments as will make the library their chief laboratory; however, under present crowded conditions on the campus, this story is largely given over to meet the pressing need for recitation rooms and laboratories.

The northwest part of the Library contains the fire-proof steel stack room, which houses in safety the formerly scattered collection of valuable books, and permits their easier and more effective use.

The building is ample to accommodate the growth of the library for many years and its architecture permits stack expansion as time and growth demand it.

Greenhouses. A range of greenhouses aids the student in his studies in commercial greenhouse work. The range is made up of five even-span houses, three ninety feet long by twenty feet wide, and two thirty-three feet long by twenty feet wide, making the total area under glass 6,720 square feet. Each of the large houses has been divided into sections thirty feet long, so that the entire space in each may be devoted to a single crop. Of the two smaller houses, one is given up to research work, and one to general plant propagation. Such crops as carnations, chrysanthemums, violets, palms, ferns, general pot plants, and forced vegetables, like tomatoes, lettuce, and cucumbers, are grown in these houses.

Dairy Building. Just north of Agricultural Hall is located the Dairy Building. The general scheme of both outside and inside finish is similar to that of Agricultural Hall. The structure is 54x141 feet, three stories high. On the first floor are the offices of the Dairy department and laboratories for buttermaking, cheesemaking, and market milk instruction, including a boiler and engine room and student lockers. On the second floor are the testing laboratory, advanced laboratory, veterinary laboratories, etc. The third floor is temporarily occupied by the department of Mathematics, with the exception of a general lecture room, extending across the south end of this floor, and having a seating capacity of two hundred.

The Forestry Building. The three-story Forestry Building, 80 feet wide and 136 feet long, constructed of brick, houses the work in forestry and logging engineering. This building contains roomy laboratories for work in silviculture, dendrology, mensuration, forest protection, technology, drafting, and logging engineering. As rapidly as material can be assembled these laboratories will be supplied with the various instruments and equipment which the peculiar work of each requires. In addition to the laboratories, space is to be devoted to a collection of manufactured wood products, designed to show the various uses to which wood may be put and to a forest museum in which will be assembled large specimens of all commercial woods of the United States. All available publications dealing with forestry and logging subjects are provided for the use of students. Portions of the building are used temporarily by the School of Vocational Education, by the department of English, and the department of Poultry Husbandry.

Home Economics. The first wing, 68x120 feet, of the new Home Economics Building is occupied by the departments of Household Administration, Household Science, and Household Art. The building is located directly west from the Dairy Building. It consists of three stories above a high basement, and is built of brick and stone. Heating and ventilating systems of the most modern type are installed, and all provisions are made for the comfort and convenience of the young women carrying the work of Home Economics. Offices for the professors and instructors in Home Economics are on the first, second, and third floors.

The food laboratories are on the first and second floors, while the Household Art department has all of the third floor of the building and part of the second floor. Locker and dressing rooms are provided for the convenience of the students, and hot and cold water is supplied in all parts of the building.

The Mines Building, 65x81 feet in dimensions, which is located about 100 yards northwest of the Administration Building, is one of

the newer structures. It is a fine four-story structure, constructed of brick, trimmed with stone, and similar in type to Agricultural Hall. The first floor of the building contains the main offices, assaying, metallurgical, and ore-dressing laboratories. The basement contains the crushing and sampling rooms, the ceramic laboratory, and the stock rooms. On the second floor are the Bureau of Mines laboratory and lecture and class rooms. On the third floor are the geological museum, the mineralogical and petrological laboratories, and drafting room. All the laboratories are provided with water, gas, electric lights, and steam heat.

Apperson Hall, situated about one hundred fifty yards northeast of the Administration Building, is 90x120 feet, two stories high, and constructed of Oregon gray granite and sandstone. It is an attractive, substantial building, well arranged and admirably adapted to the purposes for which it is used. Besides recitation and lecture rooms for the classes in Industrial Arts, Mechanical, Electrical, Civil, Highway, and Irrigation Engineering, it contains physical and engineering laboratories.

Mechanic Arts Building is a modern, well-lighted structure of brick, with cement foundations, 52x52 feet, two stories high, flanked by a one-story wing on the east, 40x220 feet, and a similar wing on the south, 40x200 feet. The central portion contains the office of the Dean, a display room for student work, a tool-room for the machine shop, and a finishing room for the wood shop. On the second floor is a general drafting room, 30x50 feet, with a blue-print room and a dark room adjoining. The south wing contains the main woodworking shop, 40x97 feet, a stock room 30x40 feet, a carpenter shop, 20x40 feet, and the O. A. C. Press, 40x50 feet. The east wing contains the machine shop, 40x80 feet, the blacksmith shop, 40x100 feet, store room for coal and iron, lockers, and toilet rooms.

The Foundry, which is located immediately south of the blacksmith shop, is built of brick. It contains one 22-inch Colliau cupola for melting iron, one brass furnace, one portable core oven, one stationary core oven for larger work, one twelve-hundred-pound crane ladle, one eight-hundred-pound crane ladle, and several smaller ladles. It contains also one crucible brass furnace, one two-ton jib crane, one post crane, one No. 2 Delano pulley molding machine, one tumbling barrel for cleaning castings, and a liberal supply of smaller tools, flasks, etc.

New Engineering Laboratory. A new Engineering Laboratory, appropriation for which was made by the 1919 legislature, is now under construction. The building will be of brick and concrete, 220x63 feet, two stories high. It is located on Monroe Street, directly north of the Mines Building, and adjacent to Mechanics Arts Building.

The first floor of the main laboratory will have three distinct groups of equipment. A materials laboratory, hydraulic equipment, and steam and gas engine laboratory will be provided. In the basement will be located a boiler which will furnish heat for the building and also steam for use of the engines to be installed in the laboratory. Underground tanks with pumps for furnishing water to the hydraulic laboratory immediately above on the first floor will be installed in the center of the basement. In addition there will be small laboratories for special work. A mezzanine floor will extend entirely around the main floor, above which will be a five-ton traveling crane for moving heavy machinery. The remainder of the floor will be used for class and lecture rooms. An automotive laboratory will be located at one end of the building.

The Women's Gymnasium is situated about two hundred yards south of the Administration Building, and is erected against a gently sloping bank on Jefferson Street. The structure, 70x120 feet, is built of stone and wood, and comprises a basement, or first floor, facing east, with the main floor above it, having a bank entrance on the west end. The first floor of the building is devoted to locker rooms, dressing rooms, bathrooms, and offices, together with a rest room and a special room for corrective gymnastics. The second floor consists chiefly of one large gymnasium room, which is also frequently used as a lecture hall, assembly room, and social center for moderate-sized gatherings. This room is surmounted by a balcony running track, suspended from the trusses. It affords facilities, in a court of 79x54 feet dimensions, for basketball, indoor baseball, tennis, and various winter and indoor games. The building affords accommodations for the physical training of the women of the institution.

The Men's Gymnasium is situated immediately west of Waldo Hall on Jefferson Street, adjoining the main athletic field. The structure is to consist of four units, the central part being 90x150 feet, with each wing 52x96 feet in dimensions. The fourth unit will provide a swimming pool 50x100 feet, of modern design and finish. Only two units were completed during 1914, the main hall and the east wing. The main hall is used as a lecture and assembly room, or a place for entertainments when large audiences are to be accommodated. The showers and baths are of modern design, providing hot and cold water throughout the year. The floor of the main hall, with its 13,500 square feet of surface, provides space for three basketball courts, indoor baseball diamond, and space for various winter and indoor games. The east wing provides boxing and wrestling rooms, and an auxiliary gymnasium with special apparatus for use of the individual and for corrective gymnastics. When completed, the building will have accommodations for upwards of 2,000 men.

The Armory is situated about three hundred yards south of the Administration Building. It is one of the largest of its kind in the United States and is built of concrete and steel, 126x355 feet. The drill hall portion has an unobstructed area of 36,000 square feet. The arms room, offices, and drill hall afford facilities for the accommodation of 1,000 men.

The South Heating Plant, located at the south end of the Armory, is a one-story, reinforced concrete building, with a concrete tunnel and conduits leading to the various buildings on the south side of the campus. It contains three boilers, one two-hundred-ninety, one two-hundred-fifty, and one one-hundred-fifty-five horse-power, with the necessary equipment for heating the buildings connected with it.

The North Heating Plant, a one-story brick building in the rear of Apperson Hall, contains the requisite equipment for supplying the various buildings with heat, light, and power. The apparatus installed in this building serves the purpose also of demonstration equipment in these special lines.

Waldo Hall, one of the halls of residence for women, occupies a commanding site of one hundred fifty yards west of the Armory. It is a large building of striking appearance, with a cement foundation and basement wall, and a cream-colored, pressed-brick superstructure, three stories high. The dimensions are 96x240 feet; and it contains one hundred twenty-five rooms for students, besides a kitchen, dining-room, and parlors. It is modern in its appointments and finished throughout in natural grain Douglas fir, stained to conform to the color scheme.

Cauthorn Hall, another of the women's halls of residence, is a well-proportioned frame building, situated on a commanding spot in the western part of the campus. It is 160x50 feet, has three stories and basement, and contains sixty-two rooms, besides a large kitchen, dining-room, and reception rooms. Its furnishings and appointments are adequate, modern, and in harmony with its use. Each floor is supplied with hot and cold water, baths, electric light, and steam heat.

Shepard Hall, the student building now under the auspices of the Y. W. C. A., was completed at a cost of something over \$22,000. The building is a tribute to the memory of Clay Shepard, who gave his life to the cause of cleaner, higher, and truer citizenship as exemplified in student life. The basement contains a swimming pool, shower baths, lockers, banquet room, kitchen, wood room, and accessories. The first floor contains a large lobby which is used for a reading room, for social events, and as a general gathering center for women. It also contains offices for the General Secretary, a public office,

and a combined cabinet and check room. The second floor is a dormitory, providing accommodations for about twenty young women.

The "Y" Hut. The "Y" Hut is 60x110 feet in size, consisting of one main floor with balconies. The auditorium has a stage, moving picture equipment, large fireplace, and writing and game tables. Smaller rooms adjoining are used for many purposes, such as committee meetings, billiards, the Secretary's office, and library. Opening from the balconies are the offices of the Graduate Manager, Junior Annual, Greater O. A. C. Association, and the Student Body Assembly.

Men's Dormitory. This building, though not yet complete, furnishes living quarters for two hundred fifty men. The building is located near the Men's Gymnasium and the "Y" Hut. It is 204 by 57 feet in size, three stories high above a full basement, heated by steam, lighted by electricity, and furnished with hot and cold water. The basement contains a cafeteria, two hundred four feet long, with adjoining kitchens and furnace room. The first floor contains a large recreation room for use of all the men in the dormitory, and sixteen students' rooms. The second and third floors contain twenty-five rooms each. Each floor has large bathrooms and store rooms.

Horticultural Products Building. The building is of brick, 72x46 feet in dimensions, with full basement and two additional floors. It is provided with steam, hot and cold water, and electricity for both lighting and power. On the first floor is a large evaporation room with a tunnel prune drier consisting of three tunnels twenty-two feet long. Here also is a kiln drier to be used especially for such fruits as apples. Adjoining the evaporation room is a receiving room, which can be utilized for processing, or for jam and jelly making. This floor also contains an evaporation room for the manufacture of juice, vinegar, and similar products.

On the second floor is a canning room seventy-two feet long, equipped for the canning of fruits and vegetables; a room for experimenting with special fruit products, such as glacé fruits, maraschinos, etc. On this floor will also be set aside a room for young women in Household Science, where they will work out the food value of various products which the Horticultural Products department is able to prepare.

In the basement of this building are excellent storage facilities for canned goods, vinegars, etc. The building is equipped with an elevator. The inside walls are of brick with enamel coating, and the floors are waterproof, so that the entire building can be flushed out.

Farm Buildings. The College Farm is now well equipped with farm buildings and modern facilities for conducting practical and scientific work in animal husbandry.

The Dairy Barn is a frame building with cement foundation and brick pilasters. The main part is 50x100 feet, two stories high, with two wings extending to the south, each 46x80 feet, one story in height. There is also a milk room, boiler room, and fuel room, as well as bins for the storage of grain and feed. The cow stables are floored with concrete and provided with modern stanchions, milking machines, and feeding facilities. Wide aisles afford convenience to students and visitors. Three silos of different types, erected adjoining the Dairy Barn, are regularly utilized in the feeding of the dairy animals. The second story has storage capacity for 100 tons of loose hay.

The Cattle Barn. The department of Animal Husbandry has a modern beef-cattle and sheep barn. It is located just west of the old barns, and has a floor space of 52x120 feet for sheltering stock. The hayloft has a large storage capacity for 300 tons of hay and straw. Adjoining the barn are several concrete-floored exercise lots and a new stave silo. Especial conveniences are provided for the feeding, watering, weighing, and handling of livestock. The west half of the barn is at present devoted to beef cattle and the east half to sheep, although it is planned that the entire barn will eventually be used for beef cattle.

The Stock Judging Pavilion. The Animal Husbandry work of the College is greatly facilitated by a judging pavilion, which provides very comfortable and commodious quarters for all of the demonstration work with livestock. The main room is 40x90 feet, well lighted and heated. A movable partition is provided whereby this large room may be divided into two smaller ones, each large enough for all ordinary purposes. The livestock work in the past has been very much handicapped by crowded quarters without heat or good light, but these difficulties are now past and the department is in a position to do much better work than before.

The Veterinary Building, a frame structure 56x65½ feet, is used for both instructional and Experiment Station work. The front part of the building consists of two rooms, lighted by skylights and large windows. One of the rooms is a small amphitheater, with a seating capacity of about 120. This is used very largely for clinic. The arena is sufficiently large for casting animals for surgical work. The opposite room is used for dissection and for holding autopsies. It is equipped with an overhead track for suspending carcasses, and is large enough to accommodate five dissection subjects at one time.

The back part of the building is divided into two stories. The first floor consists of a dressing room, toilet and shower-bath room, drug and instrument room, and stalls. There are three box stalls, two of which can be thrown together for use as a maternity stall.

There are three tie stalls. The stalls are used for both clinical and experimental animals. The second floor has space for storing feed, and for housing guinea pigs and rabbits.

There are two exercising paddocks just behind the building. The paddock fences have a baseboard which extends about three inches below the surface of the ground. The fences are doubled, with the necessary space between them to render the paddocks safe as quarantine pens.

Farm Mechanics Building. A modern building is provided for the Farm Mechanics work. It is a well-lighted brick building, having a large operating floor, a class room, a locker room, shop, and tool-room on the first floor. The operating floor is of cement and is roomy enough for demonstration and for the operation of the heavier farm machines. Within this place is reserved space for the very heavy farm tractors. A gallery surrounding the operating floor provides space for the lighter farm implements such as tillage, haying, and harvesting machines.

The building is equipped with shafting, belting, and power for operating and testing various machines, and a large well is provided for making pump tests. A complete equipment of the most up-to-date farm machinery is loaned the institution by the leading implement dealers of the Northwest; so that the student has constantly before him and is working with and studying the best classes of farm machinery of all types.

A new machine shed 52x56 feet, with concrete floor, is now located directly south of Farm Mechanics Building.

The Poultry Houses. On a five-acre tract of land, lying south and west of Cauthorn Hall, have been erected several buildings for the needs of the department of Poultry Husbandry. The main poultry building is a three-story structure and is used principally for class, laboratory, and demonstration purposes. It contains a demonstrating room with desks and other necessary equipment; a shop, with the necessary tools, benches, and equipment for practice work in building poultry-plant equipment; storage rooms, office, and wash rooms are also provided. In the basement, rooms are provided for fattening and killing fowls, an incubator room for student use, and a feed room with the necessary machinery for grinding and mixing poultry feeds. Besides the main poultry building there is an incubator house, with a capacity of twenty-four incubators and complementary apparatus; and a feed-storage building and a brooding house. There are also colony houses for laying and breeding stock and growing chicks. The colony houses are movable and constructed upon a plan that could

be adopted by any farmer. The colony brooding coops are also portable and are used for investigations in both natural and artificial brooding.

Hog Barn and Feeding House. During the fall of 1916 the Animal Husbandry department obtained its long-needed hog barn and feeding house. The barn is designed especially for farrowing and contains twenty-nine pens, with a four-foot alley running the length of the building from east to west. Concrete is used for the entire floor, the feeding troughs, and the automatic watering equipment. The feeding house is 28x40 feet in dimensions, three stories high. The ground floor is occupied by a driveway and entrance alley, root bin, two large grain bins, which extend through the second story, and a hopper for dumping grain into the elevator, which leads to the third floor. It provides also equipment for dividing, weighing and loading pigs, as well as a small boiler for heating water. The second story provides room for the storage of straw, six smaller grain bins with hopper bottoms, and sleeping quarters for the herdsman. The third floor contains the grinder, motor, chutes to grain bins, and storage room for movable equipment. The total capacity of the building is 15 tons of roots, 6,308 bushels of grain, and 40 tons of straw.

THE INCOME OF THE COLLEGE

Funds for the support of the College in its three grand divisions of work, Resident Instruction, Experiment Station, and Extension Service, are derived both from the National Government and the State of Oregon, as follows:

FOR RESIDENT INSTRUCTION

FROM THE NATIONAL GOVERNMENT

The Land-Grant Fund. The sale of the public land has netted the College \$202,663.99. This at present is invested in securities bearing six percent interest. The Act of Congress of 1862 explicitly demands that no part of the funds so appropriated, or the interest arising therefrom, shall be used for the purchase, erection, or maintenance of any building or buildings. The interest on this fund is approximately \$11,800 a year.

The Morrill Fund. On August 30, 1890, an act was passed by Congress "to apply a portion of the proceeds of the public land to the more complete endowment and support of the colleges for the benefit of agriculture and the mechanic arts established under the provisions of the Act of 1862." This act provides an annual fund of \$50,000.

FROM THE STATE OF OREGON

The Millage Tax. The College is chiefly dependent for maintenance upon the income from the millage tax, as provided by the State legislature of 1913, which became operative April 1, 1915. The income from this source for the year 1919-20 is \$395,594.

The State legislature of 1919 made a special appropriation of \$60,000 for the erection of an engineering laboratory; \$15,000 for emergency military structures; and \$157,566 for maintenance for the biennium, 1919-1920.

From miscellaneous entrance fees, etc., for the year 1919-20, Resident Instruction work derived an income of approximately \$17,000.

FOR EXPERIMENT STATION

Funds for the experimental work of the College, which is conducted both at the Corvallis Station and at seven branch stations located in different parts of the State, are derived from the National Government and from the State as follows:

FROM THE NATIONAL GOVERNMENT

The Hatch Fund. Under an act of Congress, approved March 2, 1887, the College receives \$15,000 a year for the maintenance of an Agricultural Experiment Station, "to aid in acquiring and diffusing among the people useful and practical information on subjects connected with agriculture."

The Adams Fund. An act of Congress, approved March 20, 1906, appropriated an initial \$5,000 for that year, and \$2,000 additional for each year thereafter until the annual amount should reach \$15,000. This fund is "to be applied only to paying the necessary expenses of conducting original researches or experiments bearing directly on the agricultural industry" of the State, and therefore supplements the Hatch Fund in the maintenance of the Experiment Station.

For the support of the branch stations at Moro, Hermiston, and Burns, the National Government appropriates annually \$8,900.

FROM THE STATE OF OREGON

State Funds. The State legislature of 1919 made the following appropriations for agricultural investigations during the biennium, 1919-1920: For the general work of the Experiment Station, \$50,000; for crop pest and horticultural investigations, \$30,000; for soil, drainage, and irrigation investigations, \$15,000; for dairy investigations, \$10,000, making a total of \$105,000.

Of this amount approximately \$43,000 is available for the College fiscal year July 1, 1920, to June 30, 1921. The State also

appropriates \$31,000 annually for support of branch experiment stations at Astoria, Burns, Hermiston, Hood River, Moro, Talent, and Union. The Hood River Station receives an additional appropriation of \$4,000 annually from Hood River county. The 1919 legislature also made a special appropriation of \$2,000 to spend for the completion of the drainage system on the tide lands of the Astoria Station and the preparation of these lands for cultivation; of this appropriation \$700 remains to be expended during the fiscal year 1920-21.

FOR EXTENSION SERVICE

FROM THE NATIONAL GOVERNMENT

The Smith-Lever Fund. This fund was established by the Smith-Lever Agricultural Extension Act passed by Congress May 8, 1914. By its provisions the Oregon Agricultural College received \$10,000 from the Federal Government to apply towards the support of the Extension Service for the fiscal year ending June 30, 1915. This sum was to be increased annually for seven years until the total amount of increase reached \$30,380. Owing to the withdrawal of war emergency funds, Congress authorized the maximum sum for the fiscal year ending June 30, 1920. The College therefore received for this fiscal year a total sum of \$40,383.46. It will require special congressional action to make this sum available for next year. After July 1, 1922, the maximum increase will continue as a permanent appropriation as long as an equal sum be "appropriated for that year by the legislature" of the State, "or provided by State, county, college, or local authorities, or individual contributions within the State for the maintenance of the cooperative agricultural extension work provided for in this Act."

Department of Agriculture Cooperative Funds. The United States Department of Agriculture appropriates this year \$15,000 for cooperative work through boys' and girls' clubs, county agents, home demonstration agents, dairying, marketing and rural organizations, and farm management demonstrations. The State duplicates this appropriation as shown below under "Cooperative Work." In addition to the above the United States Department of Agriculture has made available for the fiscal year ending June 30, 1920, approximately \$14,000.

FROM THE STATE OF OREGON

For General Extension Work. The State appropriates \$25,000 for general extension work, including movable schools, lectures, publications, Farmers' and Homemakers' Week, correspondence, demonstrations in agriculture and homemaking. To meet the Smith-Lever increase the State appropriated \$38,535.12 for the biennium 1919-1920.

For Cooperative Work. For cooperative work with the United States Department of Agriculture, as above mentioned, the State appropriates \$15,000 a year.

For County Extension Work. To meet the appropriations made by various counties for maintaining county extension work, the State is now appropriating approximately \$40,000 a year.

OFFICIAL PUBLICATIONS

The Oregon Agricultural College Bulletin. This is a periodical publication issued semi-monthly. It includes the Reports of the Board of Regents, the general College Catalogue, special announcements of College courses of study, illustrated booklets depicting College activities of special interest or timeliness, announcements of the Summer School, announcements of the Winter Short Courses, and circulars to prospective students.

Extension Bulletins. These bulletins consist of monographs on the various phases of Agriculture, Household Science and Household Art, Engineering, Mining, and Commerce, together with bulletins and circulars issued in connection with the Industrial Club work for boys and girls in the public schools and the Home Cooperative Demonstration Projects. They are written in such style as to be easily understood, thus meeting the popular demand for scientific knowledge and giving it in such form that the people of the State may profit by its application to the problems of everyday life.

The Station Bulletins. These publications include reports upon research problems and upon experimental investigations in agronomy, horticulture, drainage and irrigation, dairying, animal husbandry, poultry husbandry, insect pests, plant diseases, home economics, and special subjects of interest to the husbandman, conducted at the home station or the several branch stations.

STUDENT ORGANIZATIONS

One of the most important factors in rounding out the results and benefits of a college course is the society, club, or association work. As a result of the diverse interests of college life and the varied tastes of the students, the following organizations, besides many others, are maintained by students and faculty:

The Student Body Assembly. This is an organization of the entire student body working under a constitution and by-laws approved by the faculty and having general authority over all student body enterprises. Student body officers are elected annually. Nominations and elections are conducted in a manner similar to that of the state electorate. The officers consist of a president and secretary chosen from

the senior class, and three vice-presidents, chosen one each from senior, junior, and sophomore classes. These officers, as a whole, constitute the executive committee of the student body and have general supervision of all affairs of interest to the student body.

The Board of Control. The Board of Control consists of three faculty members appointed by the President of the College, one alumnus chosen by the Alumni Association, and five students who are the executive committee of the student body. The student body constitution vests in this Board of Control authority to supervise all student body interests entailing the expenditure of student body funds. They exercise functions in the main by the approval of budgets and schedules. The immediate supervision is exercised through a general manager appointed by the Board of Control.

Student Self-Government. A system of student self-government has been established at the College which places the general disciplinary powers of the institution in the hands of the students. The Student Council, an organization made up of ten students, five of whom are seniors, three juniors, and two sophomores, has been created and vested with such powers as are necessary to enforce the rules and regulations adopted by the students. Three members of the Student Council hold that position by virtue of their office as president of each of the classes. The remaining members are elected annually by popular vote of the student body.

The Literary Societies. These organizations have the common purpose of promoting literary work among the students. The weekly literary programs and occasional joint meetings tend to this end. The Shakopean is essentially an honorary society, membership depending upon honors won in debate or oratory at the College. To stimulate interest in debate and oratory, there are held during the year intersociety, intercollegiate, and interstate contests. Gold medals and cash prizes are presented to the winners in the contests, and the successful society in debate receives the "Gatch Cup." This is the silver cup that was presented in 1901 by Dr. Thomas M. Gatch, then president of the College, to the society that had received highest honors in the season's debates. Annually this cup is to go to the successful society in debates, but it is ultimately to become the property of the society winning it three years in succession. Many and determined have been the battles for its possession, but the cup is still without a permanent home.

The Mask and Dagger. This club was organized for the purpose of offering special training in dramatic art. A semi-annual "try-out" is held in which all students of the institution may participate, and any who possess talent in this direction may be elected to membership

in the club. No student, however, will be permitted to take part in a public production who has not an average for all of his College work, at the time the play is being prepared, of 75 percent. Platform exhibitions are given and standard plays presented during the College year.

The Oratorical Association. This body has immediate charge of all business pertaining to the competitive work in oratory and debate. Schedules, dates, prizes, conditions of competition, and all similar matters are in its care.

Intercollegiate Debate and Oratory. Each year the Oregon Agricultural College has three intercollegiate debates, putting into the field six teams, three supporting the negative and the others the affirmative of the same question. The College sends one representative each year into the old-line State Oratorical Contest in which eight colleges take part. Gold medals are awarded to the men who represent the College in these events. Each year also the College sends a representative to the State Peace Oratorical Contest, where two prizes of \$75 and \$50 respectively are awarded for first and second place.

Local Debate and Oratory. A local peace oratorical contest is held annually, to the winner of which the Cosmopolitan Club of the College presents a cash prize of \$10. There are also interclass contests in Declamation, Debate, Oratory, and Extempore Speaking, prizes being awarded by the Oratorical Association to the winners of these events. These latter contests are forensic events in the annual Interclass Forensic-Athletic Championship Contest, wherein the four classes compete for individual prizes and three loving cups—the Shakopean Cup, which becomes the permanent property of the highest individual forensic point-winner of the class winning the championship; the Orange O Cup, which becomes the property of the best athlete in that class; and the Barometer Cup, which is held one year by the class winning the interclass championship.

Musical Organizations. The musical organizations of the College include two College bands; the O. A. C. Orchestra; the Glee Club, composed of men students; and the Madrigal Club, a choral society composed of women students. Every two years the Glee and Madrigal clubs give a joint opera.

The Y. M. C. A. was organized at the Oregon Agricultural College in 1890. The Association has grown steadily, enlarging the scope and effectiveness of its work. During the war the Association was reorganized on the basis under which the Army associations operated in the training camps, and during the S. A. T. C. at the College the "Y Hut" was the center of varied activities and services which built

up a remarkable morale among the men in uniform. The College "Y" during the past year performed a similar service among the student body. A new program of activities was instituted under the same General Secretary who was in charge during the S. A. T. C. The writing rooms, committee rooms, the auditorium, and stage have been at the service of the students for social, religious, and other student activities. The Hut will continue to be used, as it has been during the past two years, for College "sings," "movies," and other entertainment vital to the life of the institution. The "Y," in short, is firmly established as a strong inspirational influence in the life of the College.

The Young Women's Christian Association aims to cooperate with all the forces of the College in promoting among the women students a well-developed life. The headquarters of the organization are Shepard Hall, the student community building. On registration days committees are appointed to meet incoming students and to help them in adjusting their work. Those who wish to earn their way through College should apply to the Dean of Women, who has charge of the Employment Bureau for Women. Meetings of the Association are held the first and third Thursdays of every month. All women are welcome to these meetings. Bible and mission study classes, social service work, socials and teas, form part of the program for the year's work. Three-fourths of the women in College are members of the Y. W. C. A. and more than that number are enrolled in voluntary Bible study.

The Athletic Association. This organization, maintained by the students through the student body assembly, encourages wholesome competition in the various outdoor and indoor intercollegiate sports. It has charge of all details pertaining to the conduct of intercollegiate athletics in which the College may be interested. A committee of the faculty has general supervision over the whole subject of athletics, thus assisting to insure a sound and conservative management.

The Varsity O Association. This association, which succeeds the Orange O club, includes all men of the College who have been officially awarded the Orange O in recognition of service on the intercollegiate athletic teams of the College. Its function is to promote the athletic ideals of the College and to serve in an advisory capacity to the Athletic Board of Control.

The Sphinx. This is the senior honor society. Membership is acquired by election based on prominence in student activities and excellence in scholarship.

The Forum. This society was organized by the junior and senior classes in the spring of 1914, its primary purpose being to recognize

efficiency in scholarship among junior and senior students. Election is made to the society by its own members. The fact that high standards of general excellence have been set by charter members makes it a decided honor to any student to be elected to membership.

The Cosmopolitan Club. This is an organization of foreign and American students. It is the local chapter of the Association of Cosmopolitan Clubs of the World. Its purpose is to provide social and educational advantages for its members and to promote international friendship. At present, twelve countries are represented in the local chapter.

The Agricultural Club. This club was established for the purpose of advancing interest in the various phases of agriculture, and promoting the investigation and discussion of both general and special agricultural subjects. Suitable programs are prepared for each meeting, and, whenever practicable, leading authorities on practical agriculture are engaged to address the members.

The Lewelling Club. This is the Horticultural Club conducted under the auspices of the Horticultural department. There is no regular organization, except an executive committee, which has power to transact such business as requires action on the part of the club. It is open to all students interested in horticulture.

The Withycombe Club. Membership in this club is open to all students taking Animal Husbandry work. The meetings of the club are devoted to discussion of animal husbandry topics not ordinarily covered in formal class-room instruction.

Gamma Sigma Delta. There is established at the College a local chapter of the national Honor Society of Agriculture. Election is limited to students of graduating and post-graduate classes in agricultural colleges who have shown exceptional ability during their undergraduate or graduate work, and to those alumni and faculty members who have rendered signal service to the cause of agricultural development.

Alpha Zeta. This is a national Agricultural fraternity requiring as a basis for membership high qualities of scholarship, leadership, and manhood. Election is by vote of the active members of the local chapter, and only those members of the junior and senior classes in Agriculture are eligible who rank in scholarship with the upper two-fifths of these classes.

The Forest Club. This is an association of students and instructors "formed for the purpose of promoting the forestry interests of the State." In order to carry out its purposes, it meets twice each month. The first meeting of each month is purely of a social nature, with each alternate meeting for the discussion of current forestry

literature, magazine articles, news items, legislation, and general progress movements pertaining to forests, forest service, forest products, forest industries, lumbering, and the lumber trade.

The Civil Engineering Club. This is an organization within the departments of Civil and Highway Engineering. The active membership is drawn from the junior and senior classes, and the privilege of associate membership is extended to the members of the two lower classes. It meets weekly for the discussion of subjects of interest to the civil and highway engineer.

The Electrical Engineers. This is the College branch of the American Institute of Electrical Engineers. The aim of the organization is to discuss the topics contained in the monthly proceedings of the A. I. E. E., and in this way develop in the students an intimate knowledge of the activities of the national organization, bringing them into closer touch with the practical problems in the engineering world and better fitting them for their life work.

The Miner's Association. This body has for its object the discussion of technical engineering subjects, review of current mining literature, presentation of original papers by the active members, and occasional lectures on special mining topics by men from outside the College.

Mechanical Engineers. This is the College branch of the American Society of Mechanical Engineers. The purpose of the organization is to meet at regular intervals for presentation of technical papers by members and by practicing engineers. Current topics of interest to engineers are also discussed at these meetings and an effort is made to keep in touch with the practical problems of the engineering world.

Sigma Tau. This is the local chapter of the national honorary Engineering fraternity, chapters of which exist at nearly all of the recognized technical schools of the United States. Membership in the fraternity is restricted to junior and senior students in Engineering and Forestry, election to membership being based principally upon excellence in scholarship.

Alpha Kappa Psi. Theta chapter of Alpha Kappa Psi, national Commerce fraternity, was organized during the year 1913-14. The purpose of the fraternity is to promote investigation along scientific lines in all phases of commercial work. Membership is open only to students in the junior and senior year in the School of Commerce; and in order to be elected to membership a student must have shown himself a leader both in scholarship and in student activities.

Aristolochite Society. A chapter of this national honorary Pharmacy society was installed at the Oregon Agricultural College on May 15, 1919. The purpose of the organization is to recognize efficiency in scholarship among junior and senior Pharmacy students.

Omicron Nu. Lambda chapter of Omicron Nu, national Home Economics organization, was installed on the campus May 30, 1919. Elections are based on scholarship, personality, and leadership. The society's main objects are to promote leadership and to further home economics ideals.

The Home Economics Club. This is an organization for the purpose of bringing all the women of the School of Home Economics into closer touch with one another than is possible without a central organization. The aim of the club is to give, by a series of monthly meetings, a general survey of home economics questions not covered in regular class-room work. The aim is carried out by means of well-directed discussions and by securing outside lecturers who by virtue of their training and experience are considered authorities on subjects relating to home economics.

Delta Psi Kappa. Iota chapter of Delta Psi Kappa, national, honorary, Physical Education sorority, was installed at the Oregon Agricultural College on January 24, 1920. Membership is based on scholarship, personality, and leadership in Physical Education.

The Commercial Club. This is a student organization within the School of Commerce. The purpose of the club is to bring its members into close relation with current methods and events in the commercial world. This is accomplished by discussions of topics pertaining to commerce by members of the club, and by addresses at various times during the year by prominent men in the fields of law and business. Active membership is open to all members of the School of Commerce.

The Pharmaceutical Association. The main purpose of this organization, which consists of the pharmacy students, is to bring its members into closer relation with the current events of the pharmaceutical world. This is brought about by discussions in the meetings of topics pertaining to pharmacy, and by addresses at various times during the year by prominent pharmacists and salesmen of the State.

The Easterners' Club. Membership in the Easterners' Club is open to all students and faculty people who have at any time resided in those states situated east of the Mississippi River, or in those provinces of Canada east of Manitoba. The objects of the club are to promote the interests of the College throughout the East, to encourage prospective students from the East, and to offer social diversion to its members by providing occasions for the mingling of ideas on such current events as the sports and politics which are represented by the various states included within the membership.

The Eastern Oregon Club. This is an organization effected for the purpose of promoting the mutual interests of the College and the

people of the eastern part of the State. Its members are afforded many social and intellectual advantages from the regular club meetings. Membership is open to all students from Eastern Oregon.

The California Club and **the Washington Club** are, as the names imply, composed of students whose homes are in California or Washington. The clubs meet for the purpose of bringing "Californians" and "Washingtonians" together socially.

The Portland Club is composed of all the students registered at the College from Portland, the primary object of the club being social diversion among those students who have been previously associated in their high school work.

STUDENT PUBLICATIONS

The Barometer. In March, 1896, the literary societies of the College began the publication of a monthly periodical, the "O. A. C. Barometer." The enterprise met with deserved success, and "the organ of the student body" is now issued as a four-page, six-column semi-weekly. It publishes the news of the College, and is of general public importance as representing the interests, character, and accomplishments of the student body at the College. By action of the Board of Regents, resulting from a unanimous recommendation of the student body, a portion of the regular term student fee of \$5.00 is devoted to the "Barometer," and every student regularly receives the paper.

The Beaver. The annual publication of the junior class made its initial appearance as "The Orange" in 1907. It is a high-class publication, substantially bound, and fully illustrated with photo-engravings, pen-and-ink sketches, and line and wash drawings. It is a full-dress carnival of the year's life, representing the dignity, the beauty, the versatility, the gaiety, the traditions, the sentiment, and the solidarity of the Oregon Agricultural College.

The Oregon Countryman. This is an illustrated monthly magazine, published by the students in Agriculture and Home Economics under the supervision of the faculties of these schools. It is designed to be of special service to the farm home. Besides dealing in a practical manner with the various College departments, it contains articles of scientific value contributed by the Experiment Station workers. Successful men and women of the State contribute articles for each issue.

The Student Engineer. This is a magazine devoted to engineering and mechanic arts. Its purposes are to record the engineering progress in the Northwest; to furnish news; to discuss methods relating

to the mechanic arts; to publish records of scientific work done by students in this institution; and to publish any matter of special technical and scientific interest. Items of interest will be found for civil, mining, mechanical, and electrical engineers, for foresters and others engaged in technical pursuits. The journal is under the supervision of the faculties of the schools of Engineering, Mining, and Forestry, but the work and responsibilities of the publication are borne by the staff, composed of students in Engineering, Mining, and Forestry.

The Commercial Print. This magazine, published each term by the students of the School of Commerce under the supervision of the faculty of the school, is devoted to the commercial interests of the College and State. Articles of merit are contributed for each issue by students, faculty, and prominent business men of the State. One feature of the magazine is the publication each year of a complete directory of all the members of the institution, students, faculty, and employees.

The O. A. C. Alumnus. This is a quarterly periodical edited and issued for the Alumni Association by the Secretary of the General Alumni Association of the Oregon Agricultural College, whose office is at the College.

STUDENT EXPENSES

GENERAL FEES

Tuition is free to all students, regardless of the place of residence. The regular College fees, excepting for special students in music who take no other College work, are as follows:

| | |
|---|--------|
| Entrance fee, payable annually on registration..... | \$5.00 |
| Incidental (Student) fee, payable each term..... | 5.00 |
| Gymnasium fee, payable each term | 1.00 |
| Diploma fee on graduation | 5.00 |
| Binding fee for graduation thesis | 1.00 |
| Vocational certificate fee | 1.00 |

LABORATORY FEES AND DEPOSITS

Students are charged small fees in the different laboratory courses to cover the cost of material used; and deposits are required to cover cost of breakage in laboratory courses where breakages are likely to occur. These fees are payable at the beginning of each term. At the end of the term deduction is made for actual breakage, and the balance of the deposit is refunded to the student. The fees and deposits charged each term are indicated in connection with the detailed descriptions of the various courses. Any changes in laboratory fees due to changes in market prices of laboratory materials are announced at the beginning of each term.

BOARD AND ROOM

Women's Dormitories. Waldo Hall, Cauthorn Hall, and Shepard Hall, with their large airy parlors and halls, are pleasant residences for the young women who come from distant homes. The buildings are supplied throughout with pure mountain water, both hot and cold, electric lights, steam heat, and other modern conveniences. The rooms are furnished with an iron bedstead, a mattress, a chiffonier, a table, and chairs. Such other materials as are needed to make the furnishings complete, including pillows, pillow-cases, sheets, blankets, bedspreads, and towels are furnished by the student; and many of the students prefer to make the rooms more homelike by bringing rugs, curtains, pictures, sofa cushions, etc. These latter articles, however, are not at all necessary. The rooms are cheerful and comfortable without additional furniture. The bedrooms average about 12 feet by 15 feet, with one window 3 feet by 7 feet. Many of the rooms are larger, and a few of them have two windows. Most rooms are furnished with single beds, but a few double ones are available. There are a limited number of single rooms in each hall. Preference for single rooms should be indicated early. The many advantages of having a roommate should not be overlooked by the student in making her plans for college life.

The conditions of living in the dormitories are such that the College considers it a distinct advantage to the women students to live in these halls of residence. A wholesome, busy student atmosphere is maintained. Reasonable freedom is allowed, but week nights are reserved for study. All girls entering the College are expected to live in one of the dormitories, unless their parents reside in the city, or they are given special permission from the Dean of Women to live elsewhere. This permission must be obtained from the Dean of Women previous to registration.

The expenses for living for each student in the dormitories are as follows:

| | |
|---|---------|
| Room deposit | \$ 3.00 |
| Room rent for each term— | |
| Single room | 18.00 |
| Double room | 9.00 |
| Board per week, payable monthly in advance..... | 5.00 |
| Incidentals, such as laundry fee, electric iron fee, etc., for each term | 2.00 |

The College authorities reserve the right to increase the price of room and board should advancing prices make it necessary. A corresponding decrease will be made whenever decreased prices make it possible.

The room deposit of \$3 must be sent to the Registrar at the time of application for a room. When the student withdraws from College, this deposit will be refunded, upon presentation of the receipt, if no damage has been done to the room or furnishings.

Women students are not expected to arrive in Corvallis until the day the halls are opened. The dormitories will open for students September 19, 1920, the day preceding the first registration day.

Men's Dormitory. The rooms in the Men's Dormitory accommodate from two to six students each. The rooms all have large windows, averaging in space 4x4 feet for each occupant. Comfortable cots, study tables, chairs, drawers, closets, and other conveniences are furnished. Each occupant furnishes the following articles: pillow, pillow-cases, mattress cover, sheets, blankets, bed spread, towels, soap, and individual toilet articles. Rugs, pictures, laundry bag, and similar accessories may be provided to suit the student's desires.

In the large, well-lighted basement, with cement floor, a cafeteria provides wholesome meals at cost.

Rooms in the Men's Dormitory are assigned in the order that applications are received. Changes in the assignment may be arranged by communication with the designated authorities of the College. A deposit fee of \$3.00 is required, which will be refunded at the close of the year, less any deductions necessary to repair damage or abuse. During 1919-1920 a uniform fee of \$12.00 a term (approximately twelve weeks) was charged each occupant of the Dormitory for room accommodations.

Private Board for Men Students. Board and room may be secured in private families in the city of Corvallis for from \$4 to \$5.50 per week. Good accommodations for self-boarding, or for club-boarding, can also be secured in the city. By clubbing, or renting rooms and boarding themselves, students materially reduce the cost of living. Students, however, will not be permitted to live at places not approved by the Faculty.

PERSONAL EXPENSES

Lists of private boarding places can be secured from the Secretary of the Y. M. C. A. after the student arrives at the College.

The personal expenses of students vary. Many students are able to go through the college year on a comparatively small income. Questions of personal thrift, discrimination in values, and established habits are determining factors here. Men in the R. O. T. C. receive their uniforms from the Government, without cost to themselves. Men are expected to supply themselves with a gymnasium suit and

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regulation gymnasium shoes. The cost of the gymnasium uniform complete, including shoes, need not exceed \$4. Women are required to provide themselves with the regulation gymnasium suit and shoes approved by the Director. The suits should be ordered at the gymnasium office at the time of registration. The price is about \$6.50.

COST OF A YEAR IN COLLEGE

One of the most perplexing questions that confronts a prospective student is what the course is going to cost him a year. The necessary cost of a year at the College will vary slightly with the particular course pursued by the student. In general, it may be said that the necessary cost per annum, exclusive of the three personal items of clothing, carfare, and amusements, averages about \$400. An estimate of this average cost for the main expense items is given below. The cost for room and board is estimated at a safe average price. The board and room items are sometimes slightly reduced, where two students occupy the same room or where boarding clubs are economically managed.

| | |
|--|-----------------|
| Registration fee | \$ 5.00 |
| Incidental (Student) fee | 15.00 |
| Laboratory fees and deposits (average) | 54.00 |
| Text-books and supplies | 45.00 |
| Board (for eight months) | *192.00- 272.00 |
| Room rent (nine months) | 45.00 |

The cost of the gymnasium suit and shoes should be added. Uniforms, however, as already indicated, should serve for more than one year. Personal expenses such as clothing, railroad fare, laundry, etc., vary greatly with the individual.

It is not recommended that any student come to the College without sufficient funds available to purchase his books and college stationery for one entire term, pay his first month's board and room rent in advance, and pay his first term entrance fees. For the average student, this initial outlay will be approximately \$70, the balance of the annual expenses being distributed about evenly throughout the remaining months of the college year.

SELF-SUPPORT

A considerable number of students manage, in one way or another, to earn the whole or part of their expenses while attending the College. Such opportunities occur in the line of office and laboratory assistance, personal services of numerous kinds, the management of various student enterprises, agencies for laundries, etc.

* On account of Christmas and other vacations which most students spend at home, the cost of board is estimated for eight months only.

The Student Employment Bureau in charge of the Young Men's Christian Association registers without charge men who apply for employment. It is the purpose of the Bureau to try to supply work, regular or occasional, to all who need it. In general, the demand for work on the part of students exceeds the supply that the Bureau has available; therefore the attention of new students who intend to earn all or part of their living is called to the following results of past experience:

1. The applications received during the summer will be given first attention; but no student should expect to be able to secure employment by correspondence.

2. There is a constant over-supply of those wishing to do teaching and clerical work. None but those having superior qualifications and experience are likely to secure employment the first term.

3. There is a considerable demand for efficient stenographers; also for men and especially women students who can do domestic labor of any kind; board and room rent may be earned by table service, dish washing, general housework, house cleaning, gardening, etc.

4. Students who can do any kind of domestic or manual labor well, and who have thoroughly good health, can earn their board by three hours' work a day, or board and room by four hours' work a day. But no student should come to the College without resources sufficient for the expenses of one term. (See "Personal Expenses.") Work of any kind is much more readily secured after the student has had opportunity of becoming familiar with local conditions.

5. No student should come expecting to earn money if he can do nothing well; skill is essential, as competition is quite as severe in the College community as elsewhere.

6. Opportunities for earning money during the summer vacations can usually be counted on, the demand for forest rangers, for field workers in engineering and mining, for skilled workmen in engineering shops, factories, canneries, and hop-yards, and for horticultural, farm, and forestry laborers, being most constant.

Upon arrival at the College, men students should report for information to the Information Bureau of the Young Men's Christian Association. Women students should report to the Dean of Women.

Women students desiring work in the Dormitories should apply early to the Housekeeper of the Women's Dormitories. The Dean of Women will be very glad to give any information to parents and prospective students concerning any matter of interest to women who are planning to enter the College.

HEALTH SERVICE

The College Health Service, inaugurated in 1916, is a department maintained with the aim of promoting the health of all the students. This aim is sought through medical examination, through consultation during office hours, through attendance of the Medical Adviser upon those in hospital and those ill at their residences, through sanitary inspection, and through supervision in case of epidemics. The services of the department, except insofar as the welfare of the College community may require, are not imposed upon any student or group of students. They are available, however, to all students who seek them voluntarily.

The department staff comprises a regular full-time physician, the Medical Adviser, who has his headquarters at the Health Service Building; and two resident graduate nurses, who are in attendance at the same building.

The Health Service is maintained by funds derived from regular student fees, twenty-five percent of such fees being devoted to this purpose. The Medical Adviser may be consulted during office hours by any student. He gives medical examinations by appointment, and medical advice and attention to those who are ill. He is in attendance at all important athletic events on the campus to render aid in case of emergencies. He authenticates excuses for absence from College work because of illness.

Patients who require hospital service will be attended, on request, by the Medical Adviser, as in other cases of illness; but will be responsible for all hospital fees. Patients requiring X-ray examinations of the Health Service will be responsible also for the cost of the X-ray pictures.

LOAN FUNDS

Student Loan Fund. Through the liberality of friends of the Oregon Agricultural College and through the accumulation of interest on loans, an irreducible student loan fund aggregating \$9,208.28 (January, 1920) has been established. The purpose, as expressed by one of the donors, is "not to induce students to attend school by providing money that can be easily obtained, but rather to aid those who have determined to secure an education and are paying the cost wholly or in part from their own earnings."

The fund consists of the following contributions:

1. One thousand dollars (\$1,000) from Hon. R. A. Booth of Eugene, restricted to students studying:

- (a) Agriculture in its various phases, with a view to becoming producers from the soil.

- (b) Such branches of mechanics as properly relate to agriculture.
- (c) Home Economics.

2. Five hundred dollars (\$500) known as the Ashby Pierce Student Loan Fund.

3. One thousand dollars (\$1,000) from the Domestic Science Dining Room at the Panama-Pacific International Exposition, restricted to the use of women students.

4. Four thousand six hundred dollars (\$4,600), without restriction, from accumulated interest and from various College organizations, such as Folk Club, Philadelphian and Feronian Literary societies, the Barometer, the Oregon Countryman, the Cosmopolitan Club, the Faculty, the Alumni, the Christian Associations, the Winter Short Course students of 1914, the Graduating Class of 1915, Chapter AL of P. E. O., Portland, and by various individuals, including Mrs. Clara H. Waldo, Portland; Hon. Thomas Kay, Salem; Hon. James Withycombe; and W. D. Wheelwright.

L. J. Simpson Scholarship Loan Fund. The College has received a gift of \$2,000 from Mr. L. J. Simpson of North Bend, Oregon, whereby five annual scholarship loans of \$100 each, continuing throughout the four years of the student's college course, will be awarded to worthy students whose needs justify the awards. The administration of the L. J. Simpson Scholarship Loan Fund is in the hands of the regular Student Loan Fund Committee, to whom applications should be made.

The J. T. Apperson Agricultural College Educational Fund. By the will of the late Hon. J. T. Apperson, Regent of the College since its foundation, a fund amounting to between twenty-five and forty thousand dollars is to be a perpetual endowment, administered by the State Land Board of Oregon, for the assistance of worthy young men and women, "who are actual bona fide residents of the State of Oregon, and who would otherwise be unable to bear the expense of a college course at the Oregon Agricultural College." The income from this estate is to be loaned to students at a low rate of interest. Applicants for loans must be recommended to the State Land Board by the President of the College and the State Superintendent of Public Instruction.

PRIZE FUNDS

The Clara H. Waldo Prize of one hundred dollars is an award annually made in the proportions of forty, thirty, twenty, and ten dollars respectively, to the woman of highest standing registered as a regular student in one of the degree curricula in the senior, junior, sophomore, and freshman year.

The A. J. Johnson Prize of one hundred forty dollars is an award to be made annually beginning with the year 1919-20 in the proportions of fifty, forty, thirty, and twenty dollars respectively, to the man of highest standing registered as a regular student in one of the degree curricula in the senior, junior, sophomore, and freshman year.

In the distribution of these prizes, the committees having charge of the awards are guided by the following points:

- (a) Proficiency in scholarship.
- (b) Success in student activities.
- (c) Qualities of manhood or womanhood.
- (d) Qualities of leadership.

THE FAWCETT CUP

A loving cup, the gift of Mrs. Mary E. Fawcett, Dean of Women, is awarded each year to some one of the women's organizations of the College as a prize for the particular number of the Girls' Stunt Show which, in the estimation of three judges, possesses in the highest degree the qualities of simplicity, promptness, brevity, originality, attractiveness, and finish. The entertainment is made up of individual stunts contributed by the women's organizations of the College, whose presidents elect a manager of the show. The proceeds are awarded chiefly to the Y. W. C. A., though any funds in excess of two hundred dollars annually may be diverted, by vote of the executive committee, either wholly or in part, to some other worthy enterprise that affects the interest of all the College women. The Fawcett Cup will become the permanent property of the organization which wins first place three times.

DEGREES AND CERTIFICATES

The Oregon Agricultural College confers the following degrees: B.S., M.S., M.E., C.E., E.E., Ph.C., Ph.G.

Certificates are granted those students who complete the Vocational Curricula in Agriculture, Home Economics, Mechanic Arts, or Commerce.

REQUIREMENTS FOR THE BACHELOR'S DEGREE

The degree of Bachelor of Science in Agriculture, in Forestry, in Logging Engineering, in Home Economics, in Electrical Engineering, in Civil Engineering, in Mechanical Engineering, in Mining Engineering, in Chemical Engineering, in Commerce, in Pharmacy, and in Industrial Arts, is conferred upon those who have satisfactorily completed the respective four-year curricula, each of which in the aggregate comprises 192 credits of collegiate work. Men must have

9 credits additional in Military Science and Tactics. A graduate in any of the curricula receives the bachelor's degree in any other curriculum by completing the studies required in that curriculum.

REQUIREMENTS FOR THE HIGHER DEGREES

Graduate work is done in the several departments of the College under the general supervision of a standing committee of the Faculty known as the Committee on Graduate Students and Advanced Degrees. A complete outline of the work to be pursued by the student, meeting the College requirements for the particular degrees sought, must be approved in advance by his major professor and the Committee on Graduate Students and Advanced Degrees. Candidates for any one of the higher degrees are required to complete a certain minimum of resident work, to prepare a suitable thesis, and to pass an oral examination.

The resident work may be completed in a single year by a student who devotes full time to his studies; it consists of a minimum of 48 credits, including the preparation of the thesis. Graduate credit from other institutions will not be accepted as reducing this minimum. From 24 to 36 of these credits must be devoted to the thesis and to allied subjects in the same department, and will constitute the candidate's major. From 12 to 24 credits must be selected from other departments of the College and will constitute the minor. Undergraduate work may, at the discretion of the committee, be taken as a part of the minor, but when so taken the number of credits allowed for any course will be reduced to two-thirds of the number listed in the catalogue, the assumption being that the candidate can, in work of that grade, accomplish as much in two hours as the average undergraduate in three. No course which is contained in the curriculum of any high school of the State of Oregon, nor any course regularly covered in the freshman and sophomore years of this College shall be allowed as credit toward an advanced degree; and no credit shall be allowed toward the major for any regular undergraduate course. All graduate students taking regularly announced courses must attend the examinations given as part of such courses.

The thesis must embody the results of investigation, though not necessarily original research, and a typewritten copy of the thesis, prepared according to the specifications of the committee, must be deposited with the chairman of the committee not later than two weeks prior to the date set for Commencement of the year in which the degree is desired.

After the thesis has been deposited, the chairman appoints a special examining committee and sets a date for the oral examination. This special committee consists of: (1) the one or more professors in charge of the major; (2) the one or more professors in charge of the minor; and (3) one or more members of the Committee on Graduate Students and Advanced Degrees. The report of this committee is presented to the College Council by the chairman of the Committee on Graduate Students and Advanced Degrees. The chairman will deposit the theses of successful students with the Librarian as soon as possible after the oral examination.

Higher degrees are conferred only at the regular commencement exercises, but the committee may under exceptional circumstances allow the candidate to be absent from such exercises.

Graduate students pay the same entrance, incidental, diploma, and binding fees as undergraduates. Laboratory fees are in each case determined by the head of the department concerned, and must be paid at the beginning of the term in which the laboratory work is done.

ADMISSION TO THE COLLEGE

A. ADMISSION AS REGULAR STUDENTS

In order to be admitted to the Oregon Agricultural College a student must be of good moral character and must present evidence of preparation sufficient to pursue profitably the curriculum for which he desires to register. Such evidence of preparation must be a certificate on a blank secured from the Registrar of the College and signed by an official of the school which the student has attended, stating the nature and amount of the work completed. When a student can not present such certificate he must take the regular entrance examinations of the College, held at the beginning of each term. These examinations are based in general upon the outlines in "Course of Study for the High Schools of Oregon" issued by the State Department of Education, Salem, Oregon.

The specific requirements for entrance to the different courses at the College are as follows:

Degree Curricula. Students 16 years of age or over, who have completed 15 units of high school work in a high school recognized as standard, will be admitted to the degree curricula on presentation of a signed statement of the principal, showing work completed. It is requested that this statement be made on the "Certificate of Record" blank of the Oregon Agricultural College. Copies of this blank will be sent by the Registrar upon application of either student or principal. The certificate, properly signed, should be filed with the Registrar of the College on or before September 15, 1920. Certificates will not be rejected at a later date, but acknowledgment of

the receipt of such certificates will be made by the Registrar up to and including September 15 only. Students sending certificates at a later date are likely to be delayed in completing registration.

The 15 units of work presented for entrance must include the following:

| | |
|--------------------------|----------|
| English | 3 units |
| Elementary Algebra | 1 unit* |
| Plane Geometry | 1 unit** |

Enough additional units, selected from the subjects listed in "Course of Study for the High Schools of Oregon," must be presented to make a total of fifteen units. If the matriculate lacks any of the required units he must carry in College enough additional work to cover the courses lacking in his secondary credits. A student who lacks not more than two of the required entrance units may be admitted as a conditioned freshman. A unit is defined as one high-school subject carried for five 45-minute periods a week throughout the school year. A student is required to earn $7\frac{1}{2}$ college credits for each entrance unit that he lacks.

While Physics is not prescribed as an entrance requirement, students who are preparing to enter the School of Engineering are urged to take a year's work in high-school Physics where the work is available. Students in the School of Agriculture who have not had a full year of high-school Physics are required to pursue the subject for two terms of their sophomore year. While History and Foreign Languages are not prescribed by the College as entrance requirements, prospective students are also urged to pursue these subjects in the high school.

Graduate Curricula. Graduates of four-year curricula in the Oregon Agricultural College or in other colleges of equal rank are eligible for registration as graduate students. Prospective graduate students are required to present credentials to the Registrar as specified under "Admission from Other Colleges."

Vocational Curricula. For admission to the vocational curricula certified evidence is required of the completion of the eighth-grade course of study in the public schools, or its equivalent. For admission to the vocational curricula or short courses in Agriculture, Dairying, Tractors, Forestry, Home Economics, and Commerce, applicants must be at least 18 years of age. For admission to the vocational curricula in Mechanic Arts and Auto Mechanics applicants must be at least 16 years of age. Applicants who have not completed the eighth-grade

* Higher Algebra ($\frac{1}{2}$ unit) is required in addition for admission to the schools of Engineering and Forestry.

** Solid Geometry ($\frac{1}{2}$ unit) is required in addition for admission to the School of Engineering.

course of study, but who are 21 years of age or over, may be admitted to any of these vocational curricula at the discretion of the dean of the school in which the work is to be carried on. For statements of the length and character of the vocational curricula, see the sections of this catalogue devoted to the respective schools.

Outlines of vocational curricula follow the outlines of degree curricula in the various schools, and descriptions of individual courses open to vocational students are given immediately following the descriptions of collegiate courses in the different departments.

B. ADMISSION AS SPECIAL AND OPTIONAL STUDENTS

Special Students. Students who present satisfactory evidence of suitable preparation for the studies they desire, who are 21 years of age or over, may be admitted as special students, provided they have never applied for admission and been rejected. Special students may later be graduated in any of the curricula, provided they complete the required work. Special students are expected to select their studies from courses open to freshmen. Registration of special students for courses to which only advanced students are regularly admitted is permissible only in cases where special preparation or special necessity for such courses exists.

Optional Students. Students who present satisfactory evidence of meeting all the entrance requirements for the freshman class, who are of mature years, may be admitted as optional students, provided they furnish satisfactory evidence that they are unable, because of poor health or outside business or professional duties, to carry a normal amount of work.

C. ADMISSION TO ADVANCED STANDING

Advanced Standing. Students matriculating in the degree curricula with more than the number of credits required for entrance to the freshman class will be given advanced standing for such credits as represent work beyond the full four years of high school—that is, work taken in the graduate year—and are equivalent to the requirements of the curriculum in which the student matriculates.

Admission From Other Colleges. Full credit is given for regular collegiate work completed in other colleges or universities recognized as standard, insofar as such work is equivalent to the requirements of the curriculum in which the student wishes to matriculate. A student who has attended another college or university and desires to enter the Oregon Agricultural College should file with the Registrar, on or before September 15, 1920, an official certificate from the institution from which he wishes to transfer, giving evidence of: (1) his

honorable dismissal; (2) a detailed statement of the entrance credits presented at the time of his matriculation at the other college; (3) a detailed statement of the work pursued while in attendance at the other college; and (4) a marked copy of the catalogue of the institution showing by conspicuous markings the courses which he completed.

ACCREDITED SCHOOLS

Graduates of the following Oregon high schools will be admitted to the Oregon Agricultural College without condition or examination, provided their credentials include the minimum entrance requirements of 3 units of English and 2 (in Engineering and Forestry 2½ or 3) units of Mathematics:

| | | |
|----------------------------------|---------------|--------------|
| Airlie | Camas Valley | Enterprise |
| Albany | Canby | Estacada |
| Alicel | Canyon City | Eugene |
| Alpine | Canyonville | Falls City |
| Alsea | Carlton | Ferndale |
| Amity | Central Point | Flora |
| Antelope | Clatskanie | Florence |
| Applegate | Cloverdale | Forest Grove |
| Arlington | Coburg | Fort Klamath |
| Ashland | Colton | Fossil |
| Astoria | Condon | Gardiner |
| Athena | Coos River | Gaston |
| Aumsville | Coquille | Glendale |
| Aurora | Corbett | Glide |
| Baker | Corvallis | Gold Beach |
| Ballston | Cottage Grove | Gold Hill |
| Bandon | Cove | Grants Pass |
| Banks | Crabtree | Grass Valley |
| Bay City | Creswell | Gresham |
| Beaverton | Crow | Haines |
| Bellfountain (Mon- roe P. O.) | Culver | Halfway |
| Bend | Dallas | Halsey |
| Bethel | Dayton | Hardman |
| Boardman | Dorena | Harrisburg |
| Bonanza | Drain | Helix |
| Bridge | Dufur | Heppner |
| Brookings | Dundee | Hermiston |
| Brownsville | Echo | Hillshoro |
| Buena Vista | Elgin | Hood River |
| Burns | Elkins | Hubbard |
| Butte Falls | Elkton | Hugo |
| | Elmira | Huntington |

| | | |
|------------------|---------------------|-------------------|
| Imbler | Mosier | Scotts Mills |
| Independence | Mt. Vernon | Seaside |
| Ione | Muddy Creek | Shaniko |
| Irrigon | Myrtle Creek | Shedd |
| Jacksonville | Myrtle Point | Sheridan |
| Jefferson | Nehalem | Siletz |
| John Day | Newberg | Silver Lake |
| Joseph | Newport | Silverton |
| Junction City | North Bend | Springfield |
| Kent | North Powder | Stanfield |
| Kerby | Nyssa | Stayton |
| Kings Valley | Oakland | St. Helens |
| Klamath Falls | Odell (Hood River | Sumpter |
| Knappa | P. O. R. 3) | Sutherlin |
| La Grande | Ontario | Sweet Home |
| Lakeside | Oregon City | Talent |
| Lakeview | Parkdale | Tangent |
| Lebanon | Parkrose | The Dalles |
| Lexington | Pendleton | Thurston (Spring- |
| Long Creek | Perrydale | field P. O. R. 2) |
| Lookingglass | Phoenix | Tillamook |
| Lorane | Philomath | Toledo |
| Lostine | Pilot Rock | Tualatin |
| McMinnville | Pleasant Hill | Turner |
| Madras | Portland | Umapine |
| Mapleton | Powers | Union |
| Marcola | Prairie City | Vale |
| Marshfield | Prineville | Vernonia |
| Maupin | Rainier | Waldport |
| Medford | Redmond | Walker |
| Merlin | Richland | Wallowa |
| Merrill | Rickreall | Walterville |
| Metolius | Riddle | Warrenton |
| Mill City | Rogue River | Wasco |
| Milton-Freewater | Roseburg | West Linn |
| Milwaukie | Salem | Weston |
| Molalla | Sandy | Wilbur |
| Monmouth | Santa Clara (Eugene | Willamina |
| Monroe | P. O.) | Woodburn |
| Monument | Scappoose | Yamhill |
| Moro | Scio | Yoncalla |

REGISTRATION

All candidates for admission should file with the Registrar a certificate of their preparatory record on or before September 15, 1920. Certificates of preparatory work will not be rejected at a later date, but applicants can not expect to receive formal acknowledgment of their receipt by the Registrar. Applicants sending in their certificates late may be delayed at registration time. Blank forms for such records may be secured from the Registrar. Such candidates should present themselves for registration at the College on September 20 or 21, 1920. Registration at a later date will be permitted only on presentation of a satisfactory reason for the delay.

Students who have not before registered at the College are advised to reach Corvallis not later than September 18, 1920, in order that they may secure a boarding and rooming place before the first day of registration.

Late Registration. Every student not registering on the regularly scheduled registration days of any term will be required to pay late registration fees as follows: \$1 for the first day late; \$1 for each additional day up to a total of \$5. Five dollars is the maximum fee. In all cases the fee will be collected as are all other fees, when the student registers.

Changes in Registration. Except in cases where the change has been initiated by the instructor in charge or by the dean, a fee of 50 cents is charged for each change in registration after ten days have elapsed from the original registration.

RESIDENT REQUIREMENTS

Every student is expected to obtain from the Registrar's office a copy of Rules and Regulations for Students, giving the routine of registration, the marking system, academic standards, regulations governing student activities, organizations, fraternities and sororities, etc. Students are held responsible for familiarity with the regulations in this handbook.

The College year is divided into three terms of approximately 12 weeks each. The terms in 1920-21 begin on September 20, January 3, and March 24, respectively.

A term credit or credit hour is presumed to represent three hours of the student's time each week for one term. This time may be assigned to work in class room, laboratory, or outside preparation.

Normal work is work leading to $16\frac{1}{2}$ credits a term. No regular student is permitted to register for work leading to more than $18\frac{1}{2}$ credits in any term without special permission from his dean, and not more than $20\frac{1}{2}$ credits a term may be recorded for any student. Only in exceptional cases is a student permitted to register for less than 12 credits' work.

Military Science and Tactics is required of all men students, three credits each year being granted for the required work of the freshman and sophomore years, and six credits for the required work of the junior year. Seniors who are members of the R. O. T. C. Advanced Corps receive six additional credits for the elective military work of the senior year. Students over 30 years of age, those who are physically disqualified, and those who have served six months or over in the U. S. Army or Navy (except the S. A. T. C.) or who have received commissions in the Army or Navy, may be given credit in the required military work on recommendation of the faculty committee appointed to pass upon advanced credit in Military Science and Tactics. Students seeking advanced credit in Military Science and Tactics or excuse from drill must file a written petition, blanks for which may be secured at the office of the Commandant.

Physical Education is required of all students during the freshman and sophomore years and of women during the two following years also, unless they are excused on recommendation of the Professor of Physical Education for Women.

A physical examination is required of all students entering the College. In case examination of any student discloses physical defects, report is made to the Director of Physical Education, and the physical training of the student is adapted to suit, and if possible to correct, such defects.

Credit for Student Activities. The College permits granting of credit for work on student publications, in oratory and debate, and in music. The number of credits that may be earned in any one year is limited by faculty regulation. Application for such credits should be made through the head of the department concerned.

Required Subjects. Every student before graduation from any four-year curriculum must have completed the following: English, nine credits; Economics, three credits; Political Science, three credits; Business Administration, three credits; Natural or Physical Science, nine credits. If a modern language is elected, the student will be expected to continue this through two years, though credit will be given for any work completed.

Maximum Number of Laboratory Hours. During the freshman and sophomore years the total number of laboratory hours for any student shall not exceed twenty-one hours a week for any term, on the basis of regular or normal course credits. These maxima do not include the time spent in military drill or physical education.

Credit Requirements for a Major or Minor. Major work in any school consists of a minimum of thirty-six credits. Students in Commerce and Home Economics may take a minor in some other school by carrying not less than eighteen credits of work in that school.

NUMBERING AND ARRANGEMENT OF DESCRIPTIONS OF COURSES IN THIS CATALOGUE

Courses in degree curricula are designated by numbers of three digits in which the left-hand digit represents usually the year (as first, second, third, etc.) in which the course is normally pursued; the middle digit represents the group of related courses in the department to which the course belongs; and the right-hand digit represents the sequence of courses in cases where courses normally follow each other in succeeding terms. Courses in vocational curricula are numbered with two digits, the first generally representing the year in which the course is pursued, the second the sequence of the course.

Under each department descriptions of vocational courses are printed immediately after the descriptions of collegiate courses.

OUTLINE OF COURSES OF STUDY

I. FOUR-YEAR CURRICULA (B.S. DEGREE):

In the **School of Agriculture**, major courses in—

- | | |
|--------------------------------|----------------------------|
| (a) Agriculture (general) | (i) Farm Management |
| (b) Agricultural Chemistry | (j) Farm Mechanics |
| (c) Animal Husbandry | (k) Horticulture |
| (d) Bacteriology | (l) Landscape Gardening |
| (e) Botany and Plant Pathology | (m) Poultry Husbandry |
| (f) Dairy Husbandry | (n) Soils |
| (g) Entomology | (o) Zoology and Physiology |
| (h) Farm Crops | |

In the **School of Commerce**, major courses in—

- | | |
|-----------------------------|----------------------------------|
| (a) Business Administration | (c) Political Science |
| (b) Economics and Sociology | (d) Office Training, Stenography |

In the **School of Engineering**, major courses in—

- | | |
|------------------------|----------------------------|
| (a) Civil Engineering— | (b) Electrical Engineering |
| Highway Engineering | (c) Industrial Arts |
| Irrigation Engineering | (d) Mechanical Engineering |
| Structural Engineering | |

In the **School of Forestry**, major courses in—

- | | |
|----------------------|-------------------------|
| (a) General Forestry | (b) Logging Engineering |
|----------------------|-------------------------|

In the **School of Home Economics**, major courses in—

- | | |
|-----------------------|------------------------------|
| (a) Household Art | (c) Household Administration |
| (b) Household Science | (d) Institutional Management |

In the **School of Mines**, major courses in—

- | | |
|----------------|------------------------|
| (a) Geology | (c) Mining Engineering |
| (b) Metallurgy | |

In the **School of Pharmacy**, major courses in—

- (a) Pharmacy

In the **School of Vocational Education**, major courses in—

- | | |
|----------------------------|------------------------------|
| (a) Agricultural Education | (c) Home Economics Education |
| (b) Commercial Education | (d) Industrial Education |

In the **Department of Chemical Engineering**, major courses in—

- (a) Chemical Engineering

II. GRADUATE CURRICULA (M.S., M.E., E.E., and C.E. DEGREES).

III. THREE-YEAR AND TWO-YEAR CURRICULA IN PHARMACY (Ph.C. and Ph.G. DEGREES).

IV. VOCATIONAL CURRICULA, as follows:

- A. General Agriculture (three-month, six-month, and one-year courses).
- B. Horticulture (three-month, six-month, and one-year courses).
- C. Dairy Manufactures, short course (12 weeks).
- D. Tractor Operation (4-week and 12-week courses repeated each term).
- E. Business Short Course (two-year Vocational Curriculum in Commerce).
- F. Dietitians' Curriculum (one year).
- G. Homemakers' Curriculum (one year).
- H. Forestry Short Course (January 3 to March 18).
- I. Mechanic Arts Vocational Curriculum (one year).
- J. Auto Mechanics (12-week and one-year courses).

V. SCHOOL OF MUSIC (Voice, piano, pipe-organ, violin, orchestra and band instruments).

SCHOOLS AND DEPARTMENTS

SCHOOL OF AGRICULTURE

WILLIAM JASPER KERR, D.Sc., President of the College.

ARTHUR BURTON CORDLEY, D.Sc., Dean of the School of Agriculture;
Director of the Agricultural Experiment Station.

JOHN MYERS CLIFFORD, Secretary to the Dean and Director.

JAMES DRYDEN, Professor of Poultry Husbandry; Chief in Poultry Husbandry, Experiment Station.

HENRY DESBOROUGH SCUDDER, B.S., Professor of Farm Management; Chief in Farm Management, Experiment Station.

ERMINE LAWRENCE POTTER, B.S., Professor of Animal Husbandry; Chief in Animal Husbandry, Experiment Station.

BENNETT THOMAS SIMMS, D.V.M., Professor of Veterinary Medicine; Chief in Veterinary Medicine, Experiment Station.

GEORGE ROBERT HYSLOP, B.S., Professor of Farm Crops; Chief in Farm Crops, Experiment Station.

WILBUR LOUIS POWERS, M.S., Professor of Soils; Chief in Soils, Experiment Station.

ARTHUR LEE PECK, B.S., Professor of Landscape Gardening and Floriculture; Superintendent of Campus and Greenhouses.

ARTHUR GEORGE BOUQUET, B.S., Professor of Vegetable Gardening; Vegetable Gardening Specialist, Experiment Station.

WILLIAM JAMES GILMORE, B.S.A.E., Professor of Farm Mechanics.

PHILIP MARTIN BRANDT, B.S., A.M., Professor of Dairy Husbandry; Chief in Dairy Husbandry, Experiment Station.

EDWARD MARIS HARVEY, Ph.D., Professor of Research in Horticulture.

WALTER SHELDON BROWN, A.B., M.S., Professor of Horticulture; Chief in Horticulture, Experiment Station.

CHARLES VLADIS RUZEK, B.S.A., Professor of Soil Fertility; Associate Professor of Soils, Experiment Station.

ALFRED GUNN LUNN, M.S., Professor of Poultry Husbandry; Extension Specialist.

EDWARD BLODGETT FITTS, Associate Professor of Animal Husbandry; Extension Specialist.

ORAN MILTON NELSON, B.S., Associate Professor of Animal Husbandry; Associate in Animal Husbandry, Experiment Station.

EDGAR LEROY WESTOVER, B.S., Field Dairyman, Extension Service.

VINCENT DICK CHAPPELL, M.S., Assistant Professor of Dairy Husbandry.

EDWARD FRITCHOFF TORGERSON, B.S., Assistant Professor of Soils.

ERNEST HERMAN WIEGAND, B.S.A., Assistant Professor of Horticultural Products.

CARL EPHRIAM SCHUSTER, M.S.A., Instructor in Horticulture.

LEON WALTON WING, B.S., M.A., Assistant Professor of Dairy Husbandry.

CHARLES CURTIS RUTH, M.S., Assistant Professor of Farm Crops.

WALTER SQUIRE CARPENTER, B.S., Extension Specialist in Farm Crops.

EARL OSBORN, D.V.M., Assistant Professor of Animal Husbandry.

ANTON EVERETT JENSEN, Instructor in Farm Mechanics.

CLAIR WILKES, B.S.A., Instructor in Farm Management.

ALFRED WEAVER OLIVER, B.S., Instructor in Animal Husbandry.

FREDERICK WILHELM MILLER, D.V.M., Instructor in Veterinary Medicine.

HARRY AUGUST SCHOTH, M.S., U. S. Department of Agriculture, Forage Specialist.

ANDREW EDWARD MURNEEK, B.S., M.A., Assistant Professor of Horticulture.

WILLIAM ANDERSON SMART, B.S.A., Crop Pest Assistant.

LYLE PORTER WILCOX, B.S.A., Crop Pest Assistant.

WILLIAM WATERS JOHNSTON, B.S., Instructor in Soils; Field Agent in Soils.

JOHN RICHARD NEVIUS, B.S., Instructor in Farm Crops.

JAMES NIVEN SHAW, B.S., Instructor in Veterinary Medicine.

HENRY HARTMAN, B.S., Instructor in Horticulture.

HALBERT EDGERTON SELBY, B.S., Instructor in Farm Management.

ALVA ESMOND BRANDT, B.S.A.E., Instructor in Farm Mechanics.

WILLIAM DOUGLAS PINE, Instructor in Dairy Husbandry.

FRANK LESTER KNOWLTON, B.S., Research Assistant in Poultry Husbandry.

WARD CRETCHER, B.S., Instructor in Soils.

HOWARD NOTSON COLMAN, A.B., B.S., Instructor in Dairy Husbandry.

HUBERT COSBY, Instructor in Poultry Husbandry; Extension Specialist.

AGNES RYDER, U. S. Department of Agriculture, Seed Analyst.

WILLIAM SAMUEL AVERILL, B.S., Foreman in Farm Crops.

JOHN SAMUEL WEIMAN, B.S., Fellow in Horticulture.

PALMER PATTON, B.S., Fellow in Farm Management.

The School of Agriculture offers a four-year curriculum leading to the degree of Bachelor of Science; a special four-year curriculum in Landscape Gardening leading to the degree of Bachelor of Science;

graduate curricula leading to the degree of Master of Science; one-year vocational curricula in General Agriculture and Horticulture leading to certificates; and various short courses of one to twelve weeks' duration.

The Baccalaureate Degree. The baccalaureate degree curricula are offered only for those who have completed the four-year course of study as prescribed for standard Oregon state high schools, or its equivalent. The aim of the work in Agriculture is to train young men to become successful farmers, dairymen, stockmen, poultrymen, and fruit growers; to equip them to become efficient managers of orchard and ranch properties and of agricultural cooperative organizations; to prepare them to become specialists in the service of the United States Department of Agriculture, or in some branch of technical work in agricultural colleges, experiment stations, or extension services; or to prepare them for service as teachers of agriculture in public schools.

Requirements for Graduation. The completion of 201 term credits by men and 192 by women is required for graduation. Work the first two years is prescribed, except that a three-credit option is allowed each term of the sophomore year. Students who expect to specialize in Landscape Gardening will pursue the curriculum outlined on pages 87-89; all others will pursue the one outlined on pages 82-87. During the junior and senior years opportunity is offered for specialization in Animal Husbandry, Agricultural Chemistry, Agricultural Education, Farm Mechanics, Bacteriology, Botany and Plant Pathology, Dairy Husbandry, Entomology, Farm Crops, Farm Management, Horticulture, Poultry Husbandry, Rural Architecture, Rural Economics, Sociology, Soils, Zoology, or General Agriculture. Of the 102 junior and senior credits necessary for graduation 37 are prescribed, 27 are restricted options, and 38 are free electives. See pages 85-87.

In addition to the prescribed work of the first two years each candidate for graduation must have completed:

(a) Eighteen or more credits in one of the above-named subjects, as selected at the beginning of the junior year. These courses, together with the correlated subjects in other departments, must be selected with the advice and consent of the head of the department and the approval of the Dean.

(b) At least fifty-four additional credits from any of the courses given in the School of Agriculture and at least six credits in Military Science and Tactics.

(c) Not less than twenty-four credits from among such subjects as English (including Public Speaking), Economics, Sociology, Political Science, and Business Administration (of which 12 credits are prescribed, see pages 82, 83, 86-89), or in Industrial Journalism, Psychology, Education, Modern Languages, Mathematics, or Military Science and Tactics.*

Graduate Work. Opportunities are provided in each of the departments of the School of Agriculture for graduates of this College, or of other institutions of equal rank, to do graduate work leading to the degree of Master of Science. The requirements for this degree are explained in full on pages 67, 68.

Vocational Curricula. The vocational curricula and short courses are not preparatory to degree curricula. They are provided for those who have been unable to complete a high-school course and for farmers or prospective farmers, young or old, who may desire a short, intensive course of instruction in agriculture. The only requirements are that the applicant must be at least 18 years of age, and must have completed the eighth grade of the public schools, or by practical experience have acquired the ability to carry the work successfully. Vocational curricula in General Agriculture and in Horticulture are offered. In the vocational curricula each term's work is complete in itself. The student may, therefore, attend for twelve, twenty-four, or thirty-six weeks. Certificates are awarded to students who complete the one-year courses.

Short Courses. (a) Dairy Manufactures. (Given during second term.) The College for several years offered a one-year vocational curriculum in Dairy Manufactures and a one-month Short Course in the same subject. These two courses are now combined in an eight or twelve-week Short Course in Dairy Manufactures. This work is offered during the second term of the College session in the months of January, February, and March. At this time buttermakers, cheesemakers, their helpers, and others interested in this kind of work can best get away from the farm or factory.

These courses are designed to train men as buttermakers and cheesemakers. Men who are experienced in this kind of work find the instruction of great value. This is evidenced by the large number of experienced workmen who attend the courses. This new Short

* Twelve credits in Military Science and Tactics are required for graduation. Of these, three credits each year are taken in the freshman and sophomore years and six credits are taken in the junior year. If the student elects to enroll in the Reserve Officers Training Corps, six additional credits in Military Science and Tactics are required in the senior year.

Course will fit them to hold more important positions. Men who have had little or no experience are able to get a good start at a fair salary after completing courses of this kind.

Collegiate students are not permitted to register for any of the subjects in this Short Course.

(b) Farm Mechanics. A series of short courses in Farm Mechanics covering the selection, operation, and adjustment of tractors will be given during December, January, February, and March.

DEGREE CURRICULUM IN AGRICULTURE

Freshman Year

Section I

| | Term | | |
|---|------------------------|------------------------|------------------------|
| | 1st | 2d | 3d |
| English Composition, Eng 101, 102, 103..... | 3 | 3 | 3 |
| General Chemistry, Ch 101, 102, 103..... | 3 | 3 | 3 |
| General Botany, Bot 101, 102 | 4 | 4 | |
| Principles of Economic Zoology, ZP 130..... | | | 5 |
| Library Practice, Lib 100 | | | 1 |
| Crop Production, FC 100 | 5 | | |
| Elements of Horticulture, Hrt 100 | | 5 | |
| Stock Judging, AH 111 | | | 3 |
| Gymnasium, PE 111, 112, 113 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| * Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ |

Section II

| | | | |
|---|------------------------|------------------------|------------------------|
| English Composition, Eng 101, 102, 103..... | 3 | 3 | 3 |
| General Chemistry, Ch 101, 102, 103..... | 3 | 3 | 3 |
| General Botany, Bot 101, 102 | | 4 | 4 |
| Principles of Zoology, ZP 130 | 5 | | |
| Library Practice, Lib 100 | 1 | | |
| Crop Production, FC 100 | | 5 | |
| Elements of Horticulture, Hrt 100 | | | 5 |
| Stock Judging, AH 111 | 3 | | |
| Gymnasium, PE 111, 112, 113 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| * Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ |

* Students have the option of entering the infantry unit, the field artillery unit, the cavalry unit, or the motor transport unit.

Section III

| | 1st | Term 2d | 3d |
|--|------------------------|------------------------|------------------------|
| English Composition, Eng 101, 102, 103..... | 3 | 3 | 3 |
| General Chemistry, Ch 101, 102, 103..... | 3 | 3 | 3 |
| General Botany, Bot 101, 102 | 4 | | 4 |
| Principles of Economic Zoology, ZP 130 | | 5 | |
| Library Practice, Lib 100 | | 1 | |
| Crop Production, FC 100 | | | 5 |
| Elements of Horticulture, Hrt 100..... | 5 | | |
| Stock Judging, AH 111 | | 3 | |
| Gymnasium, PE 111, 112, 113 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| * Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ |

Sophomore Year

Section I

| | | | |
|--|------------------------|------------------------|------------------------|
| Quantitative, Organic, Agricultural Chemistry, Ch 247, 224, 251 | 5 | 5 | 5 |
| Soils, Drainage and Irrigation, Sls 201, 202, 203.. | 3 | 3 | 3 |
| General Bacteriology, Bac 201 | 4 | | |
| Livestock Management, AH 221 | | 4 | |
| Elements of Dairying, DH 200 | | | 4 |
| Optional | 3 | 3 | 3 |
| Gymnasium, PE 211, 212, 213 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ |

Section II

| | | | |
|--|------------------------|------------------------|------------------------|
| Quantitative, Organic, Agricultural Chemistry, Ch 247, 224, 251 | 5 | 5 | 5 |
| Soils, Drainage and Irrigation, Sls 201, 202, 203.. | 3 | 3 | 3 |
| Elements of Dairying, DH 200 | 4 | | |
| General Bacteriology, Bac 201 | | 4 | |
| Livestock Management, AH 221 | | | 4 |
| Optional | 3 | 3 | 3 |
| Gymnasium, PE 211, 212, 213 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ |

* Students have the option of entering the infantry unit, the field artillery unit, the cavalry unit, or the motor transport unit.

Section III

| | Term | | |
|--|------------------------|------------------------|------------------------|
| | 1st | 2d | 3d |
| Quantitative, Organic, Agricultural Chemistry, Ch 247, 224, 251 | 5 | 5 | 5 |
| Soils, Drainage and Irrigation, Sls 201, 202, 203.. | 3 | 3 | 3 |
| General Bacteriology, Bac 201 | | | 4 |
| Livestock Management, AH 221 | 4 | | |
| Elements of Dairying, DH 200 | | 4 | |
| Optional | 3 | 3 | 3 |
| Gymnasium, PE 211, 212, 213 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ |

* Sophomore Options

| | | | |
|--|---|---|---|
| Advanced Testing, DH 204 | | | 3 |
| Breeds of Livestock, AH 231, 232 | 3 | 3 | |
| Farm Motors, Farm Tractors and Farm Trucks, Farm Implements, FM 111, 112, 131 | 3 | 3 | 3 |
| Landscape Gardening, Hrt 231 | 3 | | |
| Practical Poultry Keeping, PH 201 | | | 3 |
| Plant Propagation and Greenhouse Practice, Hrt 241 | | 3 | |
| Vegetable Growing, Hrt 221 | | | 3 |
| Forage Crops and Root Crops, FC 231 | | | 3 |
| ** General Physics, Phy 201, 202 | 3 | 3 | |
| General Geology, G 202 | | 3 | |
| Bacteriology, Botany, Entomology, or Zoology.... | 3 | 3 | 3 |

* No sophomore optional course will be given to fewer than five students.

** Required of students who do not present credit for at least one year's work in Physics.

Junior Year

| | 1st | Term 2d | 3d |
|--|-------|------------|-------|
| Agricultural Economics, ES 362 | | | 3 |
| Farm Accounting and Business Management, BA 361 | | 3 | |
| Farm Management, FMg 302 | | 4 | |
| Genetics, ZP 351 | 3 | | |
| Economic Entomology, Ent 301 | 4 | | |
| * or Comparative Anatomy I, VM 301 (3 credits) | | | |
| Plant Pathology, Bot 311 | | 4 | |
| * or Comparative Anatomy II, VM 302 (3 credits) | | | |
| Plant Physiology, Bot 321 | | | 4 |
| * or Comparative Physiology, VM 321 (3 credits) | | | |
| Major options | 4 | 4 | 4 |
| Electives | 4 | | 4 |
| Military Science and Tactics | 2 | 2 | 2 |
| | <hr/> | <hr/> | <hr/> |
| | 17 | 17 | 17 |

* If this course is elected, one credit should be added to major options.

Junior Options

| | 1st | Term 2d | 3d |
|--|-----|------------|----|
| Practical Pomology, Orchard Practice, Hrt 311, 314 | 4 | | |
| Animal Nutrition, Feeds and Feeding, AH 351, 352 | 5 | 5 | |
| Irrigation Farming, Sls 311 | 3 | | |
| Poultry Breeding, Breeds, and Judging, PH 311.. | 4 | | |
| Cereal Production, FC 311 | 5 | | |
| Semi-arid Farm Management, FMg 312..... | | 2 | |
| Potato Growing, FC 314 | | 2 | |
| Pruning Principles and Practice, Orchard Prac- tice, Hrt 313, 315 | | 4 | |
| Incubation and Brooding, PH 321 | | 4 | |
| Western Land and Water Law, Sls 314 | | 3 | |
| Crop Improvement, FC 341 | | | 5 |
| History and Literature of Horticulture, Orchard Practice, Hrt 361, 316 | | | 4 |
| Poultry House Design and Construction, PH 331.. | | | 4 |
| Land Drainage, Sls 318 | | | 3 |
| Dairy Herd Management, DH 352 | | 3 | |
| Bacteriology, Botany and Plant Pathology, Chem- istry, Entomology, or Zoology | 5 | 5 | 5 |
| Enterprise Costs and Profits, FMg 333 | | | 3 |
| Advanced Testing, DH 204 | 3 | | 3 |
| Market Milk, DH 301 | | | 3 |
| Commercial Buttermaking, DH 302, 303 | 3 | 3 | |
| Judging Dairy Cattle, DH 351 | | | 3 |

Senior Year

| | | | |
|--|----|----|----|
| Practical Public Speaking, Eng 251 | 3 | | |
| National Government, PS 301 | 3 | | |
| Major and minor options | 5 | 5 | 5 |
| Electives | 6 | 12 | 12 |
| | — | — | — |
| | 17 | 17 | 17 |

| Senior Options | Term | | |
|---|------|-----|-----|
| | 1st | 2d | 3d |
| Diseases of Livestock, VM 441 | 3 | | |
| Stock Judging, AH 411 | 4 | | |
| Seed Production, FC 432 | 3 | | |
| Systematic Pomology, Hrt 412 | 5 | | |
| Poultry Feeding, PH 441 | 4 | | |
| Soil Physics, Sls 421 | 5 | | |
| Factory Organization and Management, DH 403 | 3 | | |
| Judging Dairy Cattle, DH 451 | 1 | | |
| Animal Breeding, AH 441 | | 3 | |
| Diseases of Livestock, VM 442 | | 3 | |
| Crop Inspection, FC 421 | | 5 | |
| Viticulture, Hrt 414 | | 5 | |
| Marketing Poultry Products, PH 451 | | 4 | |
| Soil Fertility, Sls 424 | | 5 | |
| Cheesemaking, DH 401 | | 7 | |
| Factory Organization and Management, DH 403.. | | 4 | |
| Breeding Dairy Cattle, DH 452 | | 3 | |
| Livestock Economics, AH 461 | | | 3 |
| Diseases of Livestock, VM 443 | | | 3 |
| Crop Efficiency, FC 411 | | | 5 |
| Advanced Orchard Practice, Hrt 417 | | | 3 |
| Commercial Poultry Practice, PH 461 | | | 4 |
| Soil Surveying, Soil Management, Sls 427, 428.... | | | 5 |
| Advanced Farm Management, FMg 441, 442, 443.. | 3-5 | 3-5 | 3-5 |
| Bacteriology, Botany and Plant Pathology, | | | |
| Chemistry, Entomology, or Zoology | 5 | 5 | 5 |
| Advanced Testing, DH 204 | 3 | | 3 |

DEGREE CURRICULUM IN LANDSCAPE GARDENING

Freshman Year

| | | | |
|--|-----|-----|-----|
| English Composition, Eng 101, 102, 103 | 3 | 3 | 3 |
| Plane Surveying, CE 121, 122 | 5 | 4 | |
| Modern Language | 3 | 3 | 3 |
| General Botany, Bot 101, 102 | | 4 | 4 |
| Elements of Horticulture, Hrt 100 | | | 5 |
| Trigonometry, Mth 111 | 4 | | |
| Library Practice, Lib 100 | | 1 | |
| Gymnasium, PE 111, 112, 113 | 1½ | 1½ | 1½ |
| *Military Science and Tactics | 1 | 1 | 1 |
| | 16½ | 16½ | 16½ |

* Students have the option of entering the infantry unit, the field artillery unit, the cavalry unit, or the motor transport unit.

Sophomore Year

| | Term | | |
|---|------------------------|------------------------|------------------------|
| | 1st | 2d | 3d |
| English Composition, Eng 101, 102, 103 | 3 | 3 | 3 |
| Modern Language | 3 | 3 | 3 |
| Engineering Location, Curves and Earthwork, CE 221 | 4 | | |
| Railroads and Canals, CE 223 | | 5 | |
| * General Geology, G 202 | | | 3 |
| Classification of Economic Plants, Bot 331 | | | 4 |
| Roads and Pavements, HE 311 | 2 | | |
| Pen and Pencil Rendering, A 251 | | | 2 |
| Plant Propagation and Greenhouse Practice, Hrt 241 | | 4 | |
| Landscape Gardening, Hrt 231 | 3 | | |
| Gymnasium, PE 211, 212, 213 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ |

Junior Year

| | | | |
|---|----------|----------|----------|
| Introduction to Economics, ES 391 | | | 3 |
| Practical Public Speaking, Eng 251, 252 | 3 | 3 | |
| Water-color Rendering, A 351, 352 | | 3 | 3 |
| Plant Materials, Hrt 331, 332, 333 | 3 | 3 | 3 |
| History and Literature of Landscape Gardening, Hrt 337 | 3 | | |
| Elementary Industrial Journalism, IJ 200 | 3 | | |
| Forest Mapping, F 224 | | | 3 |
| Landscape Drawing, Ar 311, 312, 313 | 3 | 3 | 3 |
| Military Science and Tactics | 2 | 2 | 2 |
| Electives | | 4 | |
| | <hr/> 17 | <hr/> 18 | <hr/> 17 |

* By special arrangement with the School of Mines, Landscape Gardening students are permitted to take Geology 202 and receive full credit without having the prerequisite General Chemistry.

Senior Year

| | 1st | Term 2d | 3d |
|--|----------|------------|----------|
| National Government, PS 301 | 3 | | |
| State and Local Government, PS 302 | | 3 | |
| Theory and Design, Hrt 431, 432 | 4 | 4 | |
| Town Planning, Hrt 437 | | | 4 |
| Field Practice, Hrt 434, 435 | 4 | | 4 |
| Business and Rural Law, PS 163 | 3 | | |
| Business Management, BA 332 | 3 | | |
| Electives | | 10 | 9 |
| | <hr/> 17 | <hr/> 17 | <hr/> 17 |

VOCATIONAL CURRICULUM IN GENERAL AGRICULTURE

| | 1st | Term 2d | 3d |
|---|------------------------|------------------------|------------------------|
| Farm Soils, Sls 50 | 5 | | |
| Vocational Stock Judging, AH 11 | | 5 | |
| General Farm Mechanics, FM 10 | | | 5 |
| General Farm Crops, FC 10 | 5 | | |
| Feeding and Management, AH 21 | | 5 | |
| Diseases of Domestic Animals, VM 41 | | | 5 |
| Plant Disease Control, Bot 11 | 3 | | |
| Practical Farm Management, FMg 12 | | 3 | |
| Injurious Insects, Ent 14 | | | 3 |
| Vocational English, Eng 13 | | | 3 |
| Farm Accounts and Business Methods, BA 61.... | | 3 | |
| Practical Farm Drainage, Sls 60 | 3 | | |
| Gymnasium, PE 11, 12, 13 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Practical Poultry Keeping, PH 201, may be substituted for any other three-credit subject upon the request of at least five students.

VOCATIONAL CURRICULUM IN HORTICULTURE

| | Term | | |
|---|-----------|-----------|-----------|
| | 1st | 2d | 3d |
| Farm Soils, Sls 50 | 5 | | |
| General Farm Mechanics, FM 10 | | | 5 |
| Farm Accounts, BA 61 | | 3 | |
| Farm Dairying, DH 20 | | | 3 |
| Feeding and Management, AH 21 | | 5 | |
| General Farm Crops, FC 11 | 3 | | |
| Orchard Management, Hrt 11, 12, 13 | 5 | 5 | 5 |
| Vegetable Gardening, Hrt 21, 22, 23 | 3 | 3 | 3 |
| Gymnasium, PE 11, 12, 13 | 1½ | 1½ | 1½ |
| Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 17½ | <hr/> 17½ | <hr/> 17½ |

SHORT COURSE IN FARM MECHANICS

Repeated each term

| | Credits |
|---------------------------------------|-----------|
| Gas Engines and Tractors, FM 12 | 15 |
| Gymnasium, PE 11, 12, 13 | ½ |
| Military Science and Tactics | 1 |
| | <hr/> 16½ |

SHORT COURSE IN DAIRY MANUFACTURES

Given during the second term

| | Credits |
|---|----------|
| Buttermaking, DH 11 | 5 |
| Cheesemaking, DH 12 | 3 |
| Ice-cream Making, DH 13 | 2 |
| Factory Management, DH 14 | 2 |
| Dairy Chemistry, Ch 51 | 1 |
| Vocational Dairy Bacteriology, Bac 11 | 1 |
| Creamery Mechanics, FM 71 | 1 |
| Creamery Tests, DH 15 | 1 |
| | <hr/> 16 |

ANIMAL HUSBANDRY

The courses in Animal Husbandry are planned to fit the student for the actual raising of livestock on the farm, so that he may produce the highest grade of stock in the most economical and business-like manner. The student is thoroughly grounded in the underlying principles in order that he may successfully continue his study after leaving college, but the practical details are also thoroughly treated and a special effort is made to keep the students in close touch with the financial phases of the industry. Students who take this work as their specialty are expected not to devote their entire time to livestock; but, on the contrary, to familiarize themselves with crop production, soil fertility, and other phases of agriculture as well as general educational subjects.

Students electing to major in Animal Husbandry must have had considerable practical experience in farming and stock raising before they may be graduated. The nature and extent of the experience required is left to the judgment of the head of the department.

Students not majoring in Animal Husbandry but desiring to elect some work in the department will be given careful attention to see that they get just the work fitted to their individual needs.

Equipment. The equipment of the department of Animal Husbandry consists essentially of livestock, barns, and the College stock farms. During the past years the livestock available for illustration and demonstration purposes has been very much improved in numbers and quality. In addition to the livestock regularly kept on the College farm, much good stock is loaned from time to time by the leading breeders of the State. During the winter, carload lots illustrating the market classes are brought in for demonstration purposes. The department possesses abundant equipment for the conduct of laboratory, lecture, and recitation work.

COLLEGIATE COURSES

AH 111. Stock Judging I. The various types of farm animals are studied by score cards and cooperative methods, and the student is made familiar with the desirable and undesirable types of beef and dairy cattle, sheep, swine, and horses.

Required in Agriculture; freshman year; any term; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$0.25. Text: Vaughan, Type and Market Classes of Live Stock.

B. W. Rodenwold, A. W. Oliver

AH 115. Stock Judging II. Same as AH 111.

Elective for women; first term every other year; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$0.25. Text: Vaughan, Type and Market Classes of Live Stock. *A. W. Oliver*

AH 221. Livestock Management. Practical details of the care and management of livestock, stabling, grooming, sanitation, practical feeding, and kindred details of livestock farming, all with special reference to Oregon conditions.

Required in Agriculture; sophomore year; any term; 4 credits; 3 recitations; 1 two-hour laboratory period. Fee \$0.50. Text: Potter, Live Stock Management. *E. B. Osborn*

AH 231. Breeds of Livestock I. A study of the breeds of horses and beef cattle, their development, breeding, and type.

Prerequisite: AH 111. Required in Animal Husbandry; sophomore or junior year; first term; 3 credits; 3 recitations; 1 laboratory period. Fee \$0.25. *E. B. Osborn*

AH 232. Breeds of Livestock II. A study of the breeds of sheep and swine, their development, breeding, and type.

Prerequisite: AH 111. Required in Animal Husbandry; sophomore year; second term; 3 credits; 3 recitations; 1 two-hour laboratory period. Fee \$0.25. *A. W. Oliver*

AH 311. Stock Judging III. Course in judging of all kinds of stock.

Prerequisite: AH 111. Elective in Animal Husbandry; junior year; third term; 3 credits; 4 two-hour laboratory periods. Fee \$0.25. *B. W. Rodenwold*

AH 351. Animal Nutrition. The chemical and physiological principles of animal nutrition; function of the various classes of nutrients when taken into the animal body; nutritive rations; feeding standards; compounding rations; feeds with special reference to chemical composition, energy, and source.

Prerequisite: Ch 251. Required in Animal Husbandry; junior year; first term; 4 credits; 4 recitations; 1 two-hour laboratory period. Text: Henry and Morrison, Feeds and Feeding. *B. W. Rodenwold*

AH 352. Feeds and Feeding. An advanced course in the feeding of horses, beef cattle, sheep, and swine, including thorough training in the most approved methods of stock feeding. Special study is made of the practices of the best stockmen, and of investigations carried on by the various experiment stations. Students desiring to take only such parts of the course as relate to certain kinds of livestock will be permitted to do so by arrangement with the head of the department.

Prerequisite: AH 351. Required in Animal Husbandry; junior or graduate year; second term; 5 credits; 5 recitations; 1 two-hour laboratory period. Text: Henry and Morrison, Feeds and Feeding.

E. L. Potter

AH 411. Stock Judging IV. Practical judging of all kinds of livestock, with occasional trips to fairs and stock farms. Judging teams for the Pacific International Stock Show are chosen largely from among the members of this class.

Prerequisites: At least four credits in stock judging. Required in Animal Husbandry; senior or graduate year; first term; 4 credits; 5 two-hour laboratory periods. Fee \$0.25.

E. L. Potter

AH 421. Livestock Practice. Laboratory studies devoted to such work as dipping, dehorning, hoof trimming, shearing, horse training, and other common operations of the stock farm.

Required in Animal Husbandry; senior or graduate year; first term; 1 credit; 1 three-hour laboratory period. (Note: The department reserves the right to limit the number of students in this course.) Fee \$0.50.

E. B. Osborn

AH 422. Livestock Practice. A continuation of AH 421.

Required in Animal Husbandry; senior or graduate year; third term; 2 credits; 2 three-hour laboratory periods. Fee \$1.00.

E. B. Osborn

AH 441. Animal Breeding. The practical application of principles of breeding to animals. Pedigree study.

Prerequisite: ZP 351. Required in Animal Husbandry; senior or graduate year; second term; 3 credits; 2 recitations; 1 three-hour laboratory period.

E. L. Potter

AH 445. Pedigree Study. A laboratory study of the blood lines of the various breeds of livestock. Each student is expected to select one or two breeds as the basis for special study rather than to attempt to cover all breeds.

Elective in Animal Husbandry; senior or graduate year; each term; credits and hours to be arranged.

E. L. Potter

AH 455. Abridged Feeds and Feeding. A condensed course in the feeding of beef cattle, sheep, hogs, and horses, with special reference to principles of nutrition and farm practice. While brief, this course is complete in itself.

Prerequisite: AH 221. Elective to juniors and seniors in Agriculture except those majoring in Animal Husbandry; third term; 4 credits; 4 recitations; 1 two-hour laboratory period. Text: Henry and Morrison, Abridged Feeds and Feeding.

A. W. Oliver

AH 459. **Pork Production.** Feeding and management of hogs with special reference to dairy farm conditions.

Prerequisite: AH 351. Elective in Dairy Husbandry; junior or senior year; first term; 3 credits; 3 recitations; 1 two-hour laboratory period. *A. W. Oliver*

AH 461. **Livestock Economics.** An advanced course in management, dealing particularly with economic and financial phases of livestock production.

Required in Animal Husbandry; senior or graduate year; third term; 3 credits; 3 recitations. *E. L. Potter*

AH 471. **Meats.** A study of meats of all classes of meat animals, covering butchering, location of and cutting of standard and retail cuts, judging meat raw and cooked, economics of meat production, sanitation and inspection, abbatoirs, packing houses, and retail markets.

Elective in Animal Husbandry; senior or graduate year; second term; 2 credits; 2 three-hour laboratory periods. *A. W. Oliver*

AH 475. **Meats.** Same as AH 471 eliminating butchering.

Elective in Home Economics; second or third term; 1 credit; 1 three-hour laboratory period. *A. W. Oliver*

AH 481, 482. **Seminar.** Weekly meetings in which papers on animal husbandry subjects are read and discussed. These papers are prepared under the supervision of the department, although considerable latitude is allowed in selection of subjects and manner of presentation.

Required in Animal Husbandry; junior or senior year; second and third terms; 1 credit each term. *E. L. Potter*

AH 491. **Investigative Work.** The student selects some topic for individual investigation by library methods or otherwise. The object is: first, to allow the student to study some particular subject in which he is especially interested; and second, to give him training in working out problems for himself, such as he will have to undertake after leaving college.

Elective in Animal Husbandry; senior year; any term; credits and hours to be arranged.

AH 691, 692, 693. **Graduate Research.** Graduate students are given opportunity to carry on research work along any lines desired. The department is well equipped for graduate work along lines of experimental feeding of hogs, sheep, and beef cattle, livestock management, and all forms of library work with either experiment station or general livestock literature.

Elective in Animal Husbandry; graduate year; three terms; credits and hours to be arranged. *E. L. Potter*

VOCATIONAL COURSES

AH 11. Vocational Stock Judging. A thorough drill in the judging of beef cattle, sheep, swine, and horses, accompanied by text-book and lecture work on types and breeds of livestock.

Required in Vocational Curriculum; second term; 5 credits; 1 recitation; 5 two-hour laboratory periods. Fee \$0.25. Text: Vaughan, Type and Market Classes of Live Stock. *E. B. Osborn*

AH 21. Feeding and Management. Practical details of the feeding, care, and management of all kinds of livestock with special reference to practices in the West.

Required in Vocational Curriculum; second term; 5 credits; 4 recitations; 2 two-hour laboratory periods. Fee \$1.00. Text: Potter, Live Stock Management. *A. W. Oliver*

DAIRY HUSBANDRY

There are approximately 23,000,000 dairy cows in the United States at the present time. It is estimated that one-sixth of the food supply of the nation is derived from milk and its products. As the population of the country becomes more congested an increasing proportion of the animal food of the country will come from this source. Dairying is one of the most important agricultural industries of Oregon and the Pacific Northwest. Climatic conditions especially adapt this region to successful dairying. The department offers courses training the student in the main phases of the dairy industry. The student has an opportunity to specialize in either production or manufacturing lines of work.

Equipment. The department has a well-equipped creamery and cheese-factory laboratory. The creamery is operated under commercial conditions at all times and the cheese factory is so operated when a sufficient local supply of milk is available. There is a herd of about 100 head of pure-bred dairy cattle available for instructional and experimental purposes. The College recently received as a gift from Mr. W. B. Ayer, of Portland, a herd of 25 head of pure-bred Guernsey cattle.

COLLEGIATE COURSES

DH 200. Elements of Dairying. Fundamental principles and correct practices of modern dairying; testing of milk and cream; principles of buttermaking; operation of farm separators.

Required in Agriculture; sophomore year; each term; 4 credits; 3 lectures; 2 two-hour laboratory periods. Fee \$4.00. Deposit \$2.00. Reference texts: Stocking, *Manual of Milk Products*. Eckles and Warren, *Farm Dairying*. *H. N. Colman, W. D. Pine*

DH 204. Advanced Testing. Theory and practice of the various tests used to determine the composition of milk, cream, butter, cheese, and condensed milk in factories; tests for adulterants and preservatives; methods of standardizing testing solutions. This course is prerequisite to the dairy manufacturing subjects; optional in third term of the sophomore year.

Prerequisite: DH 200. Elective in Agriculture; junior or senior year; first term; 2 credits; 1 lecture; 1 two-hour laboratory period. Fee \$3.00. Deposit \$2.00. Reference texts: Farrington and Woll, *Testing Milk and Cream*. Van Slyke, *Modern Methods of Testing Milk*. *V. D. Chappell, W. D. Pine*

DH 301. Market Milk. To train for the production of market milk and for work in city milk plants and as milk inspectors. Distribution problem of the small town and city; methods of buying,

standardizing, and distributing milk from the point of view of the plant owner or manager.

Prerequisite: DH 204. Elective; third term; 3 credits; 2 lectures; 1 two-hour laboratory period. Fee \$2.00. Deposit \$1.00. Reference text: Parker, City Milk Supply. *H. N. Colman*

DH 302, 303. **Commercial Buttermaking.** This subject is taught from the point of view of the inside management of the creamery. The instruction includes the theory and practice of buttermaking and the operation of creamery equipment.

Prerequisite: DH 204. Elective; first and second terms; 3 credits each term (credit given only after both terms have been completed); 2 lectures; 1 two-hour laboratory period. Fee \$3.00. Deposit \$2.00. Text: McKay and Larson, Principles and Practice of Buttermaking. *V. D. Chappell*

DH 304. **Dairy Products Judging.** Judging of butter, cheese, and milk with score cards; discussion of defects.

Elective; first term; 1 credit; several laboratory periods a week. Fee \$2.00.

DH 351. **Judging Dairy Cattle.** The correlation of the form of dairy cattle with milk production; gross breed characteristics; comparative judging and terminology of the show ring.

Prerequisite: AH 111. Elective; third term; 3 credits; 3 two-hour laboratory periods. Fee \$0.50. *L. W. Wing*

DH 352. **Dairy Herd Management.** History and characteristics of the breeds of dairy cattle and their adaptability to various conditions; the selection of a breed; development of a herd; keeping of records; raising calves and heifers; the principles of feeding dairy cattle.

Prerequisite: AH 351. Elective; second term; 3 credits; 3 lectures. Text: Eckles, Dairy Cattle and Milk Production.

P. M. Brandt

DH 401. **Cheesemaking.** Theory and practice of cheesemaking; manufacture of Cheddar cheese; practice in the manufacture of the common soft types, including cottage, Neufchatel, club, and Swiss; the fundamental scientific principles of chemistry and bacteriology involved; judging cheese.

Prerequisite: DH 204. Elective; second term; 4 credits; 2 lectures; 1 eight-hour laboratory period. Fee \$3.00. Deposit \$2.00. Text: Thom and Fiske, The Book of Cheese.

V. D. Chappell, W. D. Pine

DH 402. **Ice-cream and Condensed Milk.** Science and practice of the manufacture and sale of ice-creams and ices; manufacture of condensed milk; emphasis on the relation of these industries to each other and to the dairy industry in general.

Prerequisite: DH 204. Elective; third term; 3 credits; 2 lectures; 1 two-hour laboratory period. Fee \$3.00. Text: Frandsen and Markham, *Manufacture of Ice-creams and Ices*.

V. D. Chappell, W. D. Pine

DH 403. **Factory Organization and Management.** Taught from the standpoint of the factory owner or manager, correlating all the practices taught in factory methods with the problem of factory management. Leaks, efficiency, selling, etc.

Elective; first term; 5 credits; 4 lectures; 1 laboratory period. Fee \$1.00.

V. D. Chappell

DH 451. **Dairy Judging Team.** To train students for participation in intercollegiate dairy cattle judging contests.

Prerequisite: DH 351. Elective; first term; 1 credit; several laboratory periods a week and short trips to nearby farms. Fee \$0.50.

L. W. Wing

DH 452. **Breeding Dairy Cattle.** The application of the principles of genetics to the breeding of dairy cattle; selecting breeding animals; planning the breeding policy of a herd; study of pedigrees.

Elective; second term; 3 credits; 3 lectures. Fee \$0.50. Reference text: Mumford, *The Breeding of Animals*.

L. W. Wing

DH 453. **Milk Production.** A further study of feeding for milk production; more detailed study of various feeding standards and recent feeding investigations; special problems.

Prerequisite: DH 352. Elective; third term; 3 credits; 3 lectures.

P. M. Brandt

DH 480. **Seminar.** The object of this course is to train the student to do independent work and to develop the spirit of research. Each student prepares papers and discussions on recent scientific work.

For seniors and graduate students; 1 credit; 1 recitation.

P. M. Brandt

DH 490. **Special Studies.** Students who have demonstrated their ability to do independent work may pursue special studies along various lines of investigation. This may be under the supervision of various members of the staff. Credit to be arranged.

P. M. Brandt

DH 691, 692, 693. **Research.** Graduate students who desire to pursue advanced work may take up problems which they are qualified to study. Credit to be arranged.

P. M. Brandt, V. D. Chappell, L. W. Wing

VOCATIONAL COURSES

DH 11. Buttermaking. The principles of creamery buttermaking; construction, management, and care of the creamery; a comparison of the various methods commonly used in the manufacture of butter in creameries; practice in sampling and grading cream; pasteurization and ripening of cream; churning and packing butter.

Required in Dairy Manufactures Short Course; 5 credits; 3 lectures; 3 four-hour laboratory periods. Fee \$2.00.

V. D. Chappell, W. D. Pine

DH 12. Cheesemaking. The commercial manufacture of Cheddar cheese, covering the process in detail; a study of other varieties of cheese; factory management and construction; practice in making Cheddar and other cheeses; records kept of the different operations to note their effect on the finished products.

Required in Dairy Manufactures Short Course; 3 credits; 3 lectures; 1 six-hour laboratory period. Fee \$1.00.

V. D. Chappell, L. B. Zeimer

DH 13. Ice-cream Making. The preparation of mixes for various frozen products by different formulas; freezing, packing, and sale of frozen products.

Required in Dairy Manufactures Short Course; 2 credits; 2 lectures; 1 three-hour laboratory period. Fee \$1.00. *V. D. Chappell*

DH 14. Factory Management. A discussion of the problems of the business management of a creamery. A help to the man who is a creamery manager.

Required in Dairy Manufactures Short Course; 2 credits; 2 lectures.

DH 15. Creamery Tests. Advanced work in the use of the Babcock test; short cuts and conveniences for rapid and efficient testing; rapid tests for adulterants and preservatives; curd, acidity, and sediment tests.

Required in Dairy Manufactures Short Course; 1 credit; 1 lecture; 1 two-hour laboratory period. Fee \$1.00.

V. D. Chappell, W. D. Pine

DH 20. Farm Dairying. The history and development of the dairy breeds and their adaptability to various economic conditions; how to manage a dairy herd as a part of the operations on a general farm; selection of the cows and herd sire; calf raising; keeping records of the herd; and feeding for milk production.

Required in Dairy Manufactures Short Course; 3 credits; 3 lec-

H. N. Colman

FARM CROPS

This department deals with the problems of production, improvement, marketing, manufacture, and uses of each of the field crops produced for food, forage, textile, and special purposes. The purpose of the work is primarily to teach students scientific, practical, and economical methods of crop production and improvement that may be put into actual use on the farm. In addition the courses are so arranged that men may fit themselves for civil service positions in agronomy, forage crops, grain standardization, plant breeding, crop marketing, etc., or for experiment station, extension, or teaching work. The object is to turn out men with a broad training on general lines and well finished in Farm Crops. Considerable flexibility in electives is allowed in order to meet special needs of individual students.

Numerous Farm Crops graduates are occupying technical positions involving considerable responsibility. The field is a large one and deals principally with well-known and staple crops that are constantly in use and in demand. The work is closely associated with the daily food supply and is of importance to all students of Agriculture, whether seeking a salaried position or expecting to engage in, the operation or management of a farm.

Equipment. The department has excellent recitation rooms and well-equipped laboratories. The Experiment Station plots offer excellent opportunities for field study and make possible extensive collection of valuable material for class work. A large collection of the best books, periodicals, etc., dealing with the subject, is available. The Oregon Agricultural College is excellently equipped for grain grading and inspection work; the new crop inspection course is a marked improvement over anything heretofore offered.

COLLEGIATE COURSES

FC 100. Crop Production. Fundamental principles of economic crop production; storage, marketing, and uses of leading cereal forage and special field crops; production costs; methods of improvement; crop rotations; and weed control methods. A course of foundation principles, prerequisite to all Farm Crops courses in the degree curriculum except FC 351 and 361.

Required in Agriculture; freshman year; any term; 5 credits; 4 recitations; 1 two-hour laboratory period. Fee \$0.75. Text: Montgomery, *Productive Farm Crops*.

G. R. Hyslop, C. C. Ruth, J. R. Nevius

FC 231. Forage Crops and Root Crops. The production, handling, storage, marketing, and uses of forage; reseeding and care of range;

development and maintenance of pasture; silage and hay making; soiling crop rotations; root-crop production; cost comparison of different crops.

Elective in Agriculture; sophomore or junior year; third term; 3 credits; 3 recitations. Fee \$0.50. Text: Piper, Forage Crops.

G. R. Hyslop

FC 311. Cereal Production. A thorough study of the production and uses of cereals and allied grains from seed to consumer; varieties; distribution; adaptability; best production methods; markets; manufacture and use of wheat, corn, oats, rye, barley, flax, buckwheat, and grain sorghums; laboratory studies; cereal judging; seed quality; effect of treatment on seed, quality of grain, and grain products; studies of material in the field. The course is suited to cereal specialists, grain growers, general farmers, and those preparing for civil service work in agronomy, grain investigation, grain supervision, and inspection work and for operators of elevators, warehouses, and mills.

Elective in Agriculture; junior year; first term; 5 credits; 4 recitations; 1 three-hour laboratory period. Fee \$0.75. Texts: Carleton, Small Grains. Montgomery, The Corn Crop.

C. C. Ruth, J. R. Nevius

FC 314. Potato Growing. Potato production; improvement; storage; cost; marketing; distribution; uses; experimental work; varietal studies and identification; judging and scoring.

Elective in Agriculture; junior or senior year; second term; 2 credits; 1 recitation; 1 two-hour laboratory period. Fee \$0.50.

G. R. Hyslop, W. S. Averill

FC 341. Crop Improvement. Practical improvement of farm crops as to quality and yield; field selection; variety testing; head, hill, and ear-to-row methods; multiplication; pure-seed production; hybridization and fundamental plant-breeding laws applicable to practical crop improvement; laboratory work in greenhouse, laboratory, and field. Important for seed-production specialists, experimental workers, and candidates for civil service positions in agronomy, forage crop, or potato work.

Elective in Agriculture; junior year; third term; 5 credits; 4 recitations; 1 three-hour laboratory period. Fee \$0.75.

FC 351. Seed Testing. A study in seed identification and germination; seed legislation; standard methods of seed testing; seed grades and standards. A course for students preparing for private, state, or Federal seed-testing work. Men and women having a good knowledge of systematic Botany and some knowledge of seed production may take this course.

Prerequisite or companion course: FC 432. Elective in Agriculture, Home Economics, and Commerce; junior or senior year; second term; 2 credits; 2 three-hour laboratory periods. Fee \$0.75.

J. R. Nevius

FC 361. Weed Eradication. Lectures and reference work on weed types and their habits of growth; weed legislation; practical methods of prevention, control, and eradication; special attention to noxious, persistent, perennial, and poisonous weeds of ranch and range.

Elective in Agriculture; junior or senior year; third term; 2 credits; 2 recitations.

J. R. Nevius

FC 411. Crop Efficiency. The production, storage, and marketing of farm crops; comparison of methods leading to cheaper and more efficient production; analysis of net results; crop adaptability and its relation to substitutes and competing markets; relation of preparatory methods to returns; sequence of crops as it affects yield, quality, and profits of succeeding crops; organization and operation of cropping systems and crop rotations; flexible cropping systems; crop specialization, extremes, and fads; amendments as they affect yield, quality, and profits of specific crops; systems of crop storage, handling and use on farm and for market; grade and standard fixation, making the most of grades and market customs; factors determining when to sell; state, national, and international regulations dealing with transportation, inspection, and marketing of farm crops; export and import regulations; preparation of crops for shipment; loading cars; weather data; protection of shipments; crop statistics, their value and use; disposal of crop by-products and other problems affecting successful production.

Required in Farm Crops; elective to others in Agriculture; senior year; third term; 5 credits; 5 recitations. Fee \$0.50. *G. R. Hyslop*

FC 414, 415, 416. Advanced Crop Work. Lectures or laboratory work, or both, to groups of students desiring additional work along special lines of crop production not treated fully in other courses, or for students desiring to carry on advanced work or investigation beyond that outlined in undergraduate courses. Suggested topics are the following; others may be given should occasion arise: (a) Production and disposition of Sugar Beets. (b) Production and disposition of Hops. (c) Production and disposition of Fiber Flax. (d) Production and disposition of Tobacco. (e) Special work on experimental methods. Individual students desiring this work may be assigned to some practical problem involving experimental or research work and the preparation of a thesis.

Elective in Agriculture; senior year; three terms; 3 to 5 credits each term. Fee to be arranged.

G. R. Hyslop

FC 421. Crop Inspection. The inspection, grading, and valuation of cereals, forage, potatoes, beans, seeds, stock feeds, and miscellaneous agricultural commodities according to Federal, state, and other adopted standards; theory and practice of grade fixation and application. A valuable course for people buying or selling agricultural commodities or engaging in inspection work, fitting men for state and Federal positions as grain supervisors, samplers, and inspectors, and teaching farmers, warehousemen, millers, and others correct methods in valuation of agricultural commodities.

Elective in Agriculture; senior year; second term; 5 credits; 3 recitations; 2 three-hour laboratory periods. Fee \$1.00.

G. R. Hyslop, J. R. Nevius

FC 432. Seed Production. Principles and special methods of production, distribution, and use of seed crops of grasses, alfalfa, clover, and other forage legumes; field beans, horse beans, soy beans, peas, and other food legumes, and other special seed crops. Seed inspection, seed certification, and seed legislation.

Elective in Agriculture; senior year; first term; 3 credits; 2 recitations; 1 two-hour laboratory period. Fee \$0.75.

G. R. Hyslop, J. R. Nevius

FC 441. Advanced Crop Breeding. An advanced course dealing with the theory and technique of breeding field crops; transmission of characters; hybridization; variability and its measurement; behavior of characters of specific crops. This course is especially for students expecting to make a business of seed production and improvement and for those wishing to enter Federal or experiment station work in crops.

Elective in Agriculture; senior year; first term; 3 credits; 3 recitations. Fee \$0.50.

FC 691, 692, 693. Graduate Work. Candidates for advanced degrees majoring in Farm Crops are expected to complete from 24 to 32 credits of work on some specific problem of a practical nature, requiring careful research work. Results of laboratory and field work, together with a study of the literature of the subject must be embodied in a suitable thesis.

Elective in Agriculture; graduate year; three terms; credits and fees to be arranged.

G. R. Hyslop

VOCATIONAL COURSES

FC 10. General Farm Crops. Practical production, improvement, and marketing of Farm Crops for grain, forage, cover, and special purposes. A brief course combining the practical features of cereals, forage crops, and seed production, with special attention to north-western conditions.

Required in Vocational Curriculum; first term; 5 credits; 3 lectures; 2 laboratory periods. Fee \$0.75. Text: Wilson and Warburton, Field Crops. *J. R. Nevius*

FC 11. General Farm Crops. Lectures for horticultural students. Same as FC 10, except laboratory omitted.

Required in Vocational Curriculum in Horticulture; third term; 3 credits; 3 lectures. Fee \$0.25. Text: Wilson and Warburton, Field Crops. *J. R. Nevius*

FC 13. Crop Marketing, Inspection, and Valuation. Grading and marketing grain, hay, potatoes, seeds, feeding stuffs, mixed feeds, and miscellaneous agricultural commodities; crop and feed valuation. A course for men desiring to know crop values or wishing to become grain samplers, state inspectors, or grain graders and testers for commercial firms. (Given only to groups of fifteen or more students.)

Elective to Vocational students; second term; 5 credits; 3 lectures; 2 laboratory periods. Fee \$1.00. *G. R. Hyslop, J. R. Nevius*

FARM MANAGEMENT

Farm Management deals with the organization, equipment, and operation of the farm as a business enterprise. Its aim is to correlate and synchronize the operations in the various phases of production on the farm in such a way as to result in a smoothly-running, efficient plant from which maximum returns may be obtained. The courses in Farm Management are designed to give the student a broad, well-rounded training in all the phases of Agriculture that will prepare him for successful production, with emphasis laid upon those studies which will fit him best for successful management of the farm. They also prepare students for professional work as farm managers, county agriculturists, extension specialists, farm appraisers, instructional and investigational workers, etc.

Equipment. The Farm Management laboratory and seminar room are provided with drafting tables and instruments, surveying instruments, original data and record sheets, lantern slides and charts, and a complete periodical and bulletin reference library. Investigational work carried on in many different parts of the State offers the advanced student excellent opportunities for field work.

COLLEGIATE COURSES

FMg 302. Farm Management. The underlying principles of successful farm management and the major factors affecting the labor income; farming as a business; value of the farm living; types of farming; adaptation of type to region; selection and purchase of the farm; capital investment and distribution; use of credit; size of business; quality and diversity of business; farm leases and rental methods; man and horse labor efficiency; farm equipment costs and duty; farm and farmstead layout and building arrangements; cropping systems and crop rotations on different types of farms; maintenance of soil fertility as a factor in farm management; cost of production and efficient production practices; use of farm records and accounts; marketing in relation to farm management; study of typical successful and unsuccessful farms; getting started in the farming business. Short field trips. Advanced Farm Management may be taken accompanying this course.

Required in Agriculture; junior year; second term; 4 credits; 3 lectures; 1 two-hour laboratory period. Fee \$1.00. *H. D. Scudder*

FMg 303. Farm Management. A continuation of FMg 302 in which the minor factors in successful farm management are discussed.

Prerequisite: FMg 302. Elective; junior year; third term; 3 credits; 2 lectures; 1 two-hour laboratory period. Fee \$0.50.

H. D. Scudder, H. E. Selby

FMg 304. Farm Management Field Course. A course for students specializing in Farm Management. Practical application of the principles of Farm Management through direct study and analysis in the field of some of the most successful farms in the State; training in regular farm-management survey work. In the summer of the junior year the students registered in this course, accompanied by the instructor, spend four or five weeks in the field in representative sections of the State, devoting about one week to each section. The days are spent in the company of the farm owner in study of his farm and its methods, a complete record being taken; in the evenings this record is analyzed. Camp equipment is provided and field camp maintained throughout the period, the student paying only his living and traveling expenses.

Prerequisite: FMg 302. Elective; junior year; summer term; 8 credits; field work. *H. D. Scudder, H. E. Selby, C. Wilkes*

FMg 322, 323, 422, 423. Farm Management Seminar. Junior, senior, and graduate students majoring in Farm Management meet together in seminar work. The class is organized and conducted by the students, constituting their technical association in Farm Management. Discussion of investigational methods and results; inquiry into opportunity and requirements for professional and practical work in Farm Management; presentation of management methods by successful farmers in the State, etc. Each year a three-days' field trip is taken to successful farms.

Required in Farm Management; junior year; second and third terms; $\frac{1}{2}$ credit each term; fortnightly meetings. *H. D. Scudder*

FMg 411. Farm Organization. Application of the principles of Farm Management to the organization of the individual farm; methods of measuring the efficiency of any given farm; analysis of farms to determine weaknesses and possibilities of improvement; procedure followed in organizing a farm business; discussion of the standards used as a basis for farm planning; detailed study of efficiency practices in production and operation; practice in planning production programs, cropping systems, and fertility balances; labor programs; livestock, machinery, and building equipment; methods of increasing productive business; methods of financing, etc. Field trips. This course gives preparation for the actual field problems undertaken in Advanced Farm Management.

Prerequisite: FMg 302. Elective; senior year; first term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$0.50.

H. D. Scudder, H. E. Selby

FMg 412. Semi-arid Farm Management. A study of the farm-management problems of the dry farmer and irrigation farmer; prep-

aration of management plans dealing with forms of production, profitable enterprises, fertility rotations, equipment, labor distribution, marketing, etc., as adapted to semi-arid conditions; if possible, a field excursion into the dry farming and irrigated sections of Oregon for farm survey work.

Prerequisite: FMg 302. Elective; senior year; second term; 2 credits; 2 lectures. *H. D. Scudder*

FMg 422, 423. **Farm Management Seminar.** See FMg 322, 323, 422, 423.

FMg 433. **Enterprise Costs and Profits.** A study of production costs and enterprise profits; methods of securing agricultural costs; tabulation, analysis, and interpretation of cost data; discussion of forms of complete cost records and enterprise records adapted to different types of farming; study of actual production, operation, maintenance, and management costs under Oregon conditions and comparative costs and profits of the chief farm enterprises in this State; relations of price to cost and profits; analyses of new or questionable enterprises; field study of prominent and profitable farm enterprises.

Prerequisite: FMg 302. Elective; senior year; third term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$0.50.

H. D. Scudder, H. E. Selby

FMg 441, 442, 443. **Advanced Farm Management.** Field work on individual problems such as preparation of detailed organization and management plans for specific farms; efficiency testing of groups of farms; field studies and costs and profits of specific farm enterprises; field study of specific farm practices and their efficiency; studies in equipment and building improvement; farm management factor studies, etc., work directed and reviewed through weekly round-table discussions.

Prerequisite: FMg 302. Elective; senior year; three terms; 3 to 5 credits each term; all laboratory and field work. Fee \$1.00 each term.

H. D. Scudder, C. Wilkes, H. E. Selby

FMg 452. **Land Utilization.** Land resources of the State and of the United States and utilization of the same; methods of land clearing and costs; land values; types of farming adapted to different regions; the land settlement problem and settlement methods and opportunities in this and other countries; land tenure in the United States and in Oregon with comparisons of ownership and tenantry.

Prerequisite: FMg 302. Elective; senior year; second term; 2 credits; 2 lectures. *H. D. Scudder*

FMg 463. Accredited Farm Work. Senior or graduate students who have taken the regular four-year major in Farm Management or its equivalent and who have previous good records of practical experience in farming and the necessary personal qualifications as to character, industry, etc., have opportunity in this course as workmen on "accredited" farms—farms operated by progressive and successful farmers—both for actual experience and to study the organization, management, production practices, costs of production, methods of solution of special problems, etc., on these farms, making written reports, and where advisable, preparing reorganization plans. Work is inspected by the instructor and reported upon by the farm owner. College credit given the student depends upon extent and quality of practical work and written reports.

Prerequisite: FMg 302. Elective; senior or graduate year; 8 to 16 credits.

H. D. Scudder

FMg 691, 692, 693. Graduate Work. Under this head all graduate work in Farm Management is registered. Graduate work in this field may be along either of two lines.

A. Research. For the student who wishes to prepare himself for investigational and instructional or extension work in Farm Management. With the development of Farm Management throughout the country as a distinct science or branch of Agriculture, many opportunities are opening up for men in instructional or investigational or extension work in both state and Federal service. Problems of wide diversity and great practical interest offer attractive thesis subjects. The minor courses required in connection with research problems are taken in residence one or more terms and the major work in residence or in the field.

B. Practical Management. For the student who wishes to prepare himself more thoroughly as a farm manager, a sufficient period registered in the course FMg 463, Accredited Farm Work, combined with several terms' work in residence, is suggested.

Prerequisite: FMg 302. Elective; graduate year; first term; credits to be arranged.

H. D. Scudder

VOCATIONAL COURSES

FMg 12. Practical Farm Management. The principles and factors in Farm Management that are most important to the practical farmer are discussed in this course. The laboratory work deals with the solution of the home-farm problems.

Vocational Curriculum; any term; 3 credits; 2 recitations; 1 laboratory period. Fee \$0.50.

H. E. Selby

FMg 13. Farm Planning and Organization. Practical application of the principles learned in the preceding course, to the planning or

replanning of the student's home farm or an assigned farm. Plans include the selection of the most profitable industries and laying out of the farm and farmstead to give maximum efficiency in operation, and provide in detail development programs of the farm as to improvements, equipment, livestock production, cropping plan, fertility, labor, financial programs, etc.

Vocational Curriculum; third term; 2 credits; 2 laboratory periods. Fee \$0.50.

H. E. Selby, C. Wilkes

FARM MECHANICS

The purpose and scope of the work in Farm Mechanics are indicated fully in the description of courses given below.

Equipment. A large equipment of the most up-to-date farm machinery is loaned the institution by the leading implement dealers of the Northwest, so that the student has constantly before him and is working with and studying the very best farm machines of all types. The large, well-lighted gas-engine laboratory contains many different makes of gas engines, trucks and tractors, and accessories, such as sectional carburetors, magnetos, and lubricators. In addition to this equipment is a considerable selection of grain-cleaning and crushing machines, farm lighting plants, pumps, rams, and water supply equipment.

The laboratory is also equipped with two large brakes for the testing of tractors, dynamometers for determining the draft of the field machines and the draw-bar horse-power of tractors, a gas and steam indicator for determining the efficiency of farm engines and tractors, and an electric motor and watt meter, so that the student may become familiar with the power requirements of belt-driven farm machines. Many tractors of the latest design are available for use of the students in the laboratory and in the field.

COLLEGIATE COURSES

FM 111. Farm Motors. The principle, construction, operation, and adjustment of farm motors and accessories, carburetors, magnetos, ignition, governing, cooling, and lubricating systems, fuels and oils, testing, timing and trouble hunting of farm gas motors, such as are used in the tractor, truck, automobile, and stationary outfits; adaptation of electricity to farm uses.

Elective; freshman or sophomore year; any term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$2.00. *W. J. Gilmore*

FM 112. Farm Tractors and Farm Trucks. Detailed study and operation of the gas, steam, and electric motor, including the stationary gas and steam engine, tractor, truck, and automobile; indicated, brake, and draw-bar horse-power tests of tractors; tractor operation in the field.

Prerequisite: FM 111. Freshman or sophomore year; any term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$3.00.

W. J. Gilmore, A. E. Jensen

FM 121. Farm Motor and Farm Implement Repair. Babbitting soldering, valve grinding, key fitting, pipe fitting, welding, tempering, bearing scraping and fitting, and magneto repair; general repair of tractor, truck, and automobile motors and farm implements.

Prerequisite: 111. Elective; freshman or sophomore year; any term; 3 credits; 3 three-hour laboratory periods. Fee \$2.00.

A. E. Jensen

FM 131. Farm Implements. The latest horse- and tractor-drawn farm implements, plows and their adjustments and hitches, cultivating machinery, seeding and planting machines, hay and grain cutting machines, and manure spreaders; rope tying and splicing; fences and roads; setting up and adjustment of machines.

Elective; freshman or sophomore year; first or third term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$1.00.

A. E. Brandt

FM 280. Graphic Methods. Recitation and drawing periods. Plotting curves, making charts, and various drawings, designed to give training with drawing instruments and to familiarize the Agriculture student with the reading of plans. Prerequisite to FM 380.

Elective; sophomore year; any term; 2 credits; 1 lecture; 1 three-hour laboratory period. Fee \$0.50.

A. E. Brandt

FM 332. Crop Handling Equipment. A detail study of all machines used in handling of crops in field, on the farm, and in storage; fanning-mills; grain graders and crushers; grain separators and combines; farm elevators; racks; balers; silage cutters. This course is especially designed for students in Crop Production, and for students of the grain farms who desire a knowledge of adjusting and handling of the thresher and combine.

Elective; junior or senior year; second or third term; 2 credits; 1 lecture; 1 three-hour laboratory period. Fee \$1.50. *W. J. Gilmore*

FM 341. Concrete Construction. The selection, proportioning, mixing, and placing of concrete for floors, sidewalks, machine bases, and foundations. The building of forms is a part of the work.

Elective; junior or senior year; third term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$2.00. *W. J. Gilmore*

FM 351. Farm Conveniences. Installation of farm water-supply systems, and farm electric-lighting plants; pipe fitting and plumbing; meter reading; wells, pumps, hydraulic rams, and storage systems. Open to either men or women who desire a knowledge of modern farm conveniences with a view to installation.

Elective; junior or senior year; first or third term; 2 credits; 1 recitation; 1 three-hour laboratory period. *A. E. Brandt*

FM 361. Land Clearing. Comparison of methods, leading to the cheapest and most efficient method of removing stumps, trees, logs, brush, and rock from land; lectures, recitations, laboratory exercises, and field demonstrations, dealing with dynamite and explosives.

hand stump-pullers, horse pullers; tractor and donkey engine for removing stumps, char pitting, stump burning, and chemical treatment; what is being done in other states; clearing and leveling of sage brush and swamp lands.

Elective; junior or senior year; third term; 2 credits; 1 recitation; 1 three-hour laboratory period. *A. E. Brandt*

FM 371. Dairy Mechanics. Proportioning and mixing of concrete for floors, sidewalks, and machine bases; study and operation of gas engines and accessories; pumps, steam boilers, and steam engines; firing and operating steam engines; flue repair; babbitting; soldering; pipe fitting; line shafts and belting. For students in Dairying who wish a course in mechanics adapted to the needs of the dairy student.

Elective; junior or senior year; first term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$2.00. *A. E. Jensen*

FM 372. Orchard Machinery. Construction, operation, and adjustment of orchard machinery, such as gas engine, pump, tillage and seeding implements; orchard plowing and cultivation; demonstration of tractors for orchard work. Intended for students in Horticulture.

Elective; junior or senior year; third term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$2.00.

W. J. Gilmore, A. E. Jensen

FM 373. Irrigation Farm Mechanics. This course is intended for students interested in farm irrigation, and is designed for junior and senior students in Soils. It deals with the farm gas and electric motor, pumps, concrete construction, and the study and installation of farm pumping plants.

Elective; junior or senior year; third term; 3 credits; 1 recitation; 2 laboratory periods. Fee \$2.00. *W. J. Gilmore*

FM 380. Farm Structures. Planning of all farm buildings, fences, etc.; building materials; foundations; construction; lighting; ventilating; heating; costs; convenience of farm structures; plans and specifications; design and construction of farm racks, tanks, troughs, etc.

Prerequisite: FM 280. Elective; junior or senior year; any term; 1 recitation; 2 three-hour laboratory periods. Fee \$2.00.

A. E. Brandt

VOCATIONAL COURSES

FM 10. General Farm Mechanics. A vocational course in farm mechanics dealing with farm power machinery, farm implements, farm conveniences, farm concrete construction, and repair of farm equipment.

Required in Agriculture Vocational Curriculum; third term; 5 credits; 2 recitations; 3 three-hour laboratory periods. Fee \$3.00.

W. J. Gilmore, A. E. Brandt, A. E. Jensen

FM 11. Tractor and Tractor Implemements. Selection, operation, care, adjustment, and repair of farm engines, tractors, and tractor implements. This course is intended to train students as tractor operators.

Elective in Agriculture Vocational Curriculum; 15 credits; 4 recitations; 11 three-hour laboratory periods. Fee \$15.00.

FM 12. Gas Engines and Tractors. A one-month course in farm engines and farm tractors taken up from the standpoint of a farmer who intends to purchase and operate a tractor, and feels the need of practical training. This course will be given in December, January, February, and March. If, after the one-month course is taken, the student finds time and a desire to continue, he may take more advanced work.

Elective in Agriculture Vocational Curriculum; 5 credits; 1 recitation; 4 three-hour laboratory periods. Fee, first month, \$5.00; additional months, \$5.00 each.

W. J. Gilmore, A. E. Brandt, A. E. Jensen

FM 71. Creamery Mechanics. A presentation of the topics included under the course FM 371, adapted to needs of students in the Vocational Curriculum.

Elective in Agriculture Vocational Curriculum; any term; 3 credits; 3 three-hour laboratory periods. Fee \$2.00. *A. E. Jensen*

HORTICULTURE

The work in Horticulture includes instruction in Pomology, Olericulture, Floriculture, Landscape Gardening, and School Gardening. In these courses the student is first thoroughly grounded in the fundamentals, and is then allowed to specialize as he desires. He may thus fit himself for experiment station or government work or prepare for the many lines of horticultural business.

The required work for students specializing in Horticulture gives a thorough training in plant propagation, the general principles of orchard management and vegetable growing, floriculture, and landscape gardening.

The courses consist of lectures, reference reading, field exercises, and laboratory work. Much stress is placed upon the practical phases of all the work. In all courses horticultural truths are illustrated by practice, whenever possible. Students are given field and laboratory exercises in all such operations as planting, seeding, budding, grafting, cultivating, thinning, pruning, harvesting, and spraying.

Equipment. The Horticultural wing of Agricultural Hall, Horticultural Products Building, the greenhouses, extensive orchards and gardens, the large campus containing good plant material, an ammonia-gas cold storage plant, and a very good library are at the service of the department. The laboratories are well equipped for giving instruction in spraying, plant propagation, and fruit packing, vegetable grading and crating, and systematic pomology. There are large lecture rooms, a drafting room, photography rooms, and a Horticultural Museum.

The Horticultural Products Building is the first of its kind in the United States. It is a two-story brick building, with full basement, in which work can be done on a commercial scale. There is a large canning room equipped with paring and slicing machinery, sanitary preparation table, exhaust boxes, and a retort of 1,300-can capacity; a juice room equipped with hydraulic presses, settling vats, pumps, multiple drum, silver-lined filters, and bottling machine; and cold storage rooms to aid in the manufacture of fruit juices, ciders, and vinegar; a jelly and jam room equipped with machinery such as pulper and finisher, steam-jacketed kettles, and other machinery used in the manufacture of jellies, jams, glacé and maraschinos; and a commercial evaporating room containing a three-tunnel drier, a commercial kiln, and special preparation machinery to aid in the preparation of evaporated and dehydrated products.

In addition to the extensive orchards and gardens of the College, the region is well provided with orchards, canneries, etc., which can be used in the laboratory work.

The department of Horticulture is well equipped for research work. The laboratories, the greenhouses, the experimental plots, and an excellent research library of scientific books and periodicals, facilitate effective investigation in the field of Horticulture.

COLLEGIATE COURSES

Hrt 100. Elements of Horticulture. This course is to give a student enough training in horticulture to enable him to care for the home orchard as well as to understand some of the fundamentals of commercial orcharding. The course deals with such subjects as choosing the orchard; purchasing of nursery stock; planting the orchard; tillage; spraying; intercropping; and pruning.

Required in Agriculture; freshman year; any term; 5 credits; 2 lectures; 3 recitations; 2 two-hour laboratory periods. Fee \$1.00. Text: Sears, Productive Orcharding. *W. S. Brown and assistants*

POMOLOGY

Hrt 311. Practical Pomology. A continuation of Hrt 100. Principles and practices of fruit growing; frost fighting; thinning; fertilizers; pollination; economics of fruit-farm management, etc.

Required in Pomology; junior year; first term; 3 credits; 2 lectures; 2 recitations. *W. S. Brown*

Hrt 312. Sub-tropical Pomology. This course takes up in detail the problems concerning the growing and marketing of such sub-tropical fruits as oranges, figs, olives, pineapples, etc.

Elective in Agriculture; junior or senior year; second term; 3 credits; 1 lecture; 3 recitations. Text: Coit, Citrus Fruit. *H. Hartman*

Hrt 313. Pruning Principles and Practice. Thorough training in the fundamental principles underlying pruning, together with sufficient practice to enable the student to apply these fundamentals; bud study; tree building; maintaining the vigor of trees; rejuvenation.

Required in Pomology; junior year; second term; 3 credits; 2 lectures; 2 recitations. Text: Kaine, Principles and Practices of Pruning. *W. S. Brown*

Hrt 314, 315, 316. Orchard Practice. Laboratory work in which the student has actual practice in regular orchard and packing-house operations. The work includes tree planting, pruning, preparation

of spray solutions, study of spray machinery, orchard spraying, orchard heating, and the picking, grading, packing, and judging of fruits. These courses are open only to those who have taken or are taking Hrt 311.

Required in Pomology; junior year; three terms; 1 credit each term; 1 three-hour laboratory period. Fee \$1.00 each term.

C. E. Schuster and assistants

Hrt 361. History and Literature of Horticulture. A study of the literature and history of Horticulture from the time of the Egyptians to modern times.

Required in Pomology; junior year; third term; 3 credits; 2 lectures; 2 recitations.

H. Hartman

Hrt 410. Commercial Pomology. The problems of handling fruit, including the picking, grading, and packing of fruits; study of the problems of transportation, storage, distribution, and marketing; planning of buildings for packing and storing of fruit.

Required in Pomology; senior year; second term; 5 credits; 2 lectures; 3 recitations; 1 two-hour laboratory period. Text: Brown, Modern Fruit Marketing.

H. Hartman

Hrt 412. Systematic Pomology. Principles underlying pomological nomenclature and variety description, classification, and adaptation; critical study of many varieties of fruits; influence of environment upon behavior of fruit trees and the development of their products; the more important fruit groups and their inter-relationships.

Required in Pomology; senior year; first term; 5 credits; 2 recitations; 4 two-hour laboratory periods. Fee \$3.00.

H. Hartman

Hrt 414. Viticulture. Problems pertaining to the growing, harvesting, and marketing of both American and European types of grapes; soils; locations; pruning; training; harvesting; grading; packing; storage, etc.

Elective in Agriculture; junior or senior year; first term; 3 credits; 1 lecture; 2 recitations; 1 two-hour laboratory period.

H. Hartman

Hrt 415. Small Fruit Culture. Problems connected with the growing, harvesting, and marketing of such fruits as the strawberry, currant, gooseberry, raspberry, blackberry, loganberry, and cranberry.

Elective in Agriculture; junior or senior year; third term; 3 credits; 1 lecture; 3 recitations. Texts: Fletcher, The Strawberry. Card, Bush Fruits.

H. Hartman

Hrt 416. Nut Culture. Methods of growing, harvesting, curing, and marketing such nut crops as the walnut, filbert, almond, and pecan. Detailed laboratory study of the leading varieties of these nuts.

Elective in Agriculture; junior or senior year; third term; 3 credits; 1 lecture; 2 recitations; 1 two-hour laboratory period. Fee \$0.50. Text: Hume, *The Pecan*. *W. S. Brown*

Hrt 417. Advanced Orchard Practice. Problems of pruning, spraying, budding, and grafting taught by laboratory and field work, not only at Corvallis but in other sections of the State. The course is offered for those students who have had regular orchard practice work. Students are registered only by appointment with the head of the department. Schedule by arrangement in four-hour periods on Saturdays.

Elective in Agriculture; senior year; third term; 3 credits; 1 recitation; 1 four-hour laboratory period. Fee, according to cost of trips. *W. S. Brown*

Hrt 418. Applied Plant Breeding. History and development of plant breeding with horticultural plants; methods used by breeders; clinal selection; varieties of plants; evolution and development of species and varieties of horticultural importance; selection; hybridization; graft hybrids; bud selection; disease resistance, etc.

Prerequisite: ZP 351. Elective in Agriculture; junior or senior year; third term; three credits; 3 recitations; 1 two-hour laboratory period. *H. Hartman*

Hrt 481, 482, 483. Seminar. Courses for senior and graduate students in Horticulture. Study is made of some of the advanced problems. Articles from the leading magazines on horticultural subjects, as well as experiment station and Government publications, are reviewed.

Elective in Agriculture; required in Horticulture; senior year; three terms; 1 credit each term; 1 two-hour recitation.

Hrt 619. Advanced Plant Breeding. Special problems in plant breeding for graduate students.

VEGETABLE GARDENING

Hrt 221. Vegetable Growing. Fundamental study of methods of vegetable growing; planting and care of a vegetable garden as an integral part of every farm home; preparation for advanced courses in vegetable growing.

Required in Horticulture; elective in Agriculture; sophomore year; third term; 2 credits; 1 lecture; 1 two-hour laboratory period. Fee \$0.50. Texts: Watts, *Vegetable Gardening*. Lloyd, *Productive Vegetable Gardening*. *A. G. Bouquet*

Hrt 321. Vegetable Seed Production. The business of seed production is becoming yearly more important. The work offered in this course is designed both to enable the student to understand and practice methods used in contract seed production, and to acquaint

him with the manner of improving for himself seed strains of vegetables grown for market or home use. Laboratory work consists of field practice in selection of stocks, harvesting, threshing, and cleaning seed, seed testing, etc.

Required in Vegetable Gardening; junior year; first term; 3 credits; 2 recitations, 1 two-hour laboratory period. Text: Brill, Farm Gardening and Seed Growing. *A. G. Bouquet*

Hrt 322. Principles of Vegetable Gardening. A continuation of Hrt 221. Problems of growers in field management of a commercial vegetable garden, including such subjects as vegetable soils, production of plants, distribution of crops, succession of crops, manures and fertilizers, methods of irrigation, spraying, etc.

Required in Vegetable Gardening; elective in Agriculture; junior year; second term; 3 credits; 2 recitations; 1 two-hour laboratory period. Texts: Watt, Vegetable Gardening. Corbett, Garden Farming. *A. G. Bouquet*

Hrt 323. Practical Vegetable Gardening. A continuation of Hrt 322. Study of methods used in the commercial production of vegetables for market; field and greenhouse work with lectures thoroughly to acquaint the student with proper methods and management; inspection of commercial testing grounds; trips to vegetable farms.

Required in Vegetable Gardening; junior year; third term; 3 credits; 2 recitations; 1 two-hour laboratory period. Text: Corbett, Garden Farming. *A. G. Bouquet*

Hrt 421, 422, 423. Vegetable Forcing. This work extends through the three terms of the college year, thus giving the student opportunity to observe fall, winter, and spring conditions as they relate to crops grown under glass. Lectures during the fall term deal largely with the principles of vegetable greenhouse types and management, including relation of forcing vegetables to outdoor vegetable farming, types of vegetable greenhouses as related to crops produced, soil composition, fertilizing materials, systems of soil cropping, use of frames for fall and winter vegetables, soil sterilization, irrigation of vegetables under glass, etc. Laboratory work in the greenhouse enables the student to observe the application of these principles.

During the second term crop production and marketing are covered, especially as related to those vegetables suited to conditions of the winter and early spring months, such as leaf lettuce, spinach, cauliflower, French endive, rhubarb, asparagus, parsley, mushrooms, etc. The value of these various crops is considered from the standpoint of their usefulness and profit to the vegetable grower. Methods of marketing each crop are studied.

During the spring term problems incident to the forcing of tomatoes and cucumbers are studied. Attention is paid to commercial vegetable production. Lectures and recitations cover such subjects as varieties, variety characteristics, distances of planting, pruning and training methods, pollination studies, methods of mulching and watering, control of insects and diseases, harvesting, grading, and marketing.

Required in Vegetable Gardening; senior year; three terms; 2 credits each term; 1 recitation; 1 two-hour laboratory period. Text: Watts, Vegetable Forcing. *A. G. Bouquet*

Hrt 424. **Systematic Olericulture.** Descriptions, nomenclature, and classifications of vegetables; a sufficient number of varieties of each vegetable studied so that the student may become acquainted with the more important groups of horticultural varieties; exercises in displaying and judging vegetables; assigned readings.

Required in Vegetable Gardening; senior year; first term; 1 credit; 1 two-hour laboratory period. *A. G. Bouquet*

Hrt 425, 426, 427. **Commercial Truck Gardening.** In the fall term, methods of field harvesting, grading, packing, and marketing are considered, as well as problems of growers in handling vegetables from field to market. Attention during the winter term is particularly given to methods of car loading, transportation, and storage of truck crops shipped to distant markets, such as onions, cabbage, broccoli, tomatoes, onion sets, melons, etc. The student has actual practice in field work. The spring term course is devoted to a study of advanced problems in vegetable gardening principally concerning methods of economic production for the open market and for canneries and dehydrators. A general view of vegetable gardening is given. Assigned readings.

Required in Vegetable Gardening; senior year; three terms; 3 credits each term; 2 recitations; 1 two-hour laboratory period.

A. G. Bouquet

LANDSCAPE GARDENING

Hrt 231. **Landscape Gardening.** This course is designed to fit the needs of all students. Definite principles controlling layout and organization of different classes of property are developed. Enough drafting is required so that the student can express himself in a satisfactory manner. Study is made of problems in improvement work on home grounds, rural or urban, private estates, and small parks.

Required in Horticulture; sophomore year; first term; 3 credits; 2 two-hour drafting periods; 2 lectures; 1 recitation. *A. L. Peck*

Hrt 331, 332, 333. **Plant Materials.** This work is intended to familiarize the student with trees, shrubs, vines, and perennials; their peculiar habits of growth, requirements, and care. Special attention is given to foliage, color, form, adaptation, hardiness, and effects when grouped. Students are advised to take Hrt 231 as a preliminary.

Elective in Agriculture; junior year; three terms; 3 credits each term; 3 two-hour laboratory periods. *A. L. Peck*

Hrt 337. **History and Literature of Landscape Gardening.** Designed to give the student a good idea of the development of the art, and to bring him in touch with the literature, past and current, that is related to the subject.

Required in Landscape Gardening; junior year; first term; 3 credits; 3 recitations. *A. L. Peck*

Hrt 431. **Theory and Design.** A study of the best works of prominent landscape architects, together with a wide range of collateral reading. Private estates, public parks, and playgrounds, boulevards, and cemeteries are carefully studied. Reports, such as those of park boards and landscape architects, are studied.

Prerequisites: Hrt 231, 331, 332, 333. Required in Landscape Gardening; elective in Agriculture; senior year; first term; 4 credits; 1 recitation; 3 three-hour laboratory periods. *A. L. Peck*

Hrt 432. **Theory and Design.** A continuation of Hrt 431, in which a large portion of the time is devoted to preparation of planting plans. Outside time is required for collateral reading.

Prerequisite: Hrt 431. Required in Landscape Gardening; senior year; second term; 4 credits; 12 two-hour laboratory periods.

A. L. Peck

Hrt 434, 435. **Field Practice.** Courses in practical problems brought in from the field. The student makes surveys, does the engineering work incidental to the solving of the problem, makes general plans, planting plans, grading plans, details, etc.

Prerequisites: Hrt 231, 331, 332, 333. Required in Civil Engineering (freshman or sophomore year); elective to others (senior year); second and third terms; 4 credits; 12 two-hour laboratory periods.

A. L. Peck

Hrt 437. **Town Planning.** The underlying ideas of municipal, town, and village improvement; literature and reports studied; town problems discussed; methods of procedure in town improvement worked out.

Required in Landscape Gardening; senior year; third term; 4 credits; 1 recitation; 9 one-hour laboratory periods.

FLORICULTURE

Hrt 241. Plant Propagation and Greenhouse Practice. This course aims to meet the needs of students who expect to be engaged in agricultural research requiring an understanding of greenhouse practices in the handling of soils, water, sunlight, heat, and ventilation. Methods of propagating plant life are studied. Students are required to grow their own stock in the houses and to care for it throughout the term.

Elective in Agriculture; sophomore year; second term; 3 credits; 1 lecture; 1 recitation; 2 two-hour practicums. Fee \$1.50.

A. L. Peck

Hrt 341. Greenhouse Construction. A course especially for students specializing in Floriculture and Vegetable Gardening. The problems connected with the building of greenhouses, hotbeds and cold-frames; selection of materials; the various systems of heating and ventilating; value of the various types of buildings; lectures and laboratory exercises in greenhouses and drafting room.

Elective in Agriculture; junior year; second term; 4 credits; 1 lecture; 9 one-hour laboratory periods.

Hrt 441, 442, 443. Greenhouse Crops. Actual work in the greenhouse. Propagation; culture; soils; ventilation; watering; heating; as wide a range of experience as possible in growing of plants used in the florist trade.

Prerequisite: Hrt 241. Elective in Agriculture; senior year; three terms; 3 credits each term; 9 hours laboratory work.

A. L. Peck

HORTICULTURAL PRODUCTS

Horticultural products work consists of seven courses (Hrt 351, 352, 353, 361, 451, 452, 453), each course a continuation of the preceding one. These courses include training in canning, evaporation, vinegar manufacture, loganberry-juice manufacture; and the preparation of special products, such as butters, jams, jellies, glacé, maraschino, and crushed fruits. The work is conducted on a factory basis, and is handled according to the available products of each season. Instruction in canning embraces grading, blanching, exhausting, capping, sterilization (both open and in retort), manufacture of sirups and brines, labeling and storage. Both fruits and vegetables are handled. In evaporation, instruction is given with prunes, peaches, apricots, apples, pears, and vegetables, both kiln and tunnel driers being used. Emphasis is placed on grading products, processing, and packing. Special work is offered with loganberry and grape juice, unfermented cider, and vinegars. Instruction is given in manufacture of butter, jellies, glacé, maraschino, and crushed fruit.

Students desiring to major in Horticultural Products are requested to take courses in Canning Bacteriology and Advanced Chemistry.

Hrt 351. Commercial Canning of Fruits and Vegetables. This course is designed for the student wishing to enter the commercial field. It covers a working knowledge of the methods used where fruits and vegetables are canned extensively.

Elective in Agriculture; first term; 3 credits; 1 lecture; 1 recitation; 1 four-hour laboratory period. Fee \$5.00. *E. H. Wiegand*

Hrt 352, 353. Commercial Methods. Study and installation of canning machinery and methods of manufacture of canned goods.

Prerequisites: Hrt 351, 361. Elective in Agriculture; junior or senior year; second and third terms; 3 credits each term; 1 lecture; 1 recitation; 1 four-hour laboratory period. Fee \$5.00 each term.

E. H. Wiegand

Hrt 361. Dehydration of Fruits and Vegetables. This course is especially for students majoring in Horticulture. Actual drying of fruits and vegetables is done, along with the study of the common types of driers and principles of dehydration.

Elective; junior or senior year; first term; 3 credits; 1 lecture; 1 recitation; 1 four-hour laboratory period. Fee \$5.00.

E. H. Wiegand

Hrt 451. Commercial Jam, Jelly, and Juice Manufacture. This course gives the student practice in the manufacture of jams, jellies, fruit juices, and vinegars.

Prerequisite: Hrt 352. Elective; senior year; first term; 3 credits; 1 lecture; 1 recitation; 1 four-hour laboratory period. Fee \$5.00.

E. H. Wiegand

Hrt 452, 453. Advanced Canning and Preserving. A continuation of Hrt 351, 352, and 353, giving the student advanced work in canning, covering preserves, conserves, candied and glacéd fruits, and other fancy packs.

Elective; senior year; second and third terms; 3 credits each term; 1 lecture; 1 recitation; 1 four-hour laboratory period. Fee \$5.00 each term.

E. H. Wiegand

RESEARCH

Hrt 491, 492, 493. Investigative Work for Seniors. This work is offered for those seniors who are contemplating following college, experiment station, or Government work as a life career, and for

those who desire practice in research technique. Problems are assigned which give experience in the laboratory, greenhouse, field, and library.

Elective in Agriculture; senior year; three terms; 3 credits; 2 lectures. *E. M. Harvey*

Hrt 494, 495, 496. **Methods of Research.** Conducted as a research round table, these courses give drill in making of briefs and outlines of research problems, methods of procedure in conducting investigative work, and the preparation of bulletins and reports. Research problems being studied by the department of Horticulture are taken up. Close study is made of research work presented in bulletins from other institutions.

Elective in Agriculture; senior or graduate year; three terms; 1 or 2 credits each term; 2 lectures. *E. M. Harvey*

Hrt 691, 692, 693. **Advanced Thesis and Research Work.** For graduate students only. Problems in Pomology, Vegetable Gardening, Landscape Gardening, Floriculture, Plant Breeding, as selected by student.

Elective in Agriculture; graduate year; three terms; 10 to 20 credits each term. *E. M. Harvey*

VOCATIONAL COURSES

Hrt 11, 12, 13. **Orchard Management.** This work aims to give as much practical instruction in Horticulture as can be consistently given in the time allowed to persons without uniform preparation for the work. Emphasis is laid continually on laboratory and field work. The work takes up the various phases of Horticulture from the cultivation of the orchard until the crop is harvested, and includes such subjects as harvesting, grading, packing, pruning, spraying, thinning, fruit setting, etc.

One-year Vocational Curriculum in Horticulture; three terms; 5 credits each term; 3 recitations; 3 two-hour laboratory periods. Fee \$1.50 each term. Text: Sears, Productive Orchardng.

C. E. Schuster

Hrt 21, 22, 23. **Vegetable Gardening.** The work given during the fall term consists largely of a study of the important varieties of vegetables; methods of harvesting, packing, and marketing fall and winter vegetables; manner of handling vegetables for storage; fall management of the vegetable garden; observations of methods of selecting stocks of biennial vegetables for seed; and saving seed of annual vegetables. Attention during the winter term is directed to principles of production of vegetable crops such as soil adaptability,

selection of areas for certain vegetables, plans and methods of cropping, fertilizing materials and their application, value and methods of irrigation, field seeding, transplanting, etc. During the spring term study is made of methods of vegetable seedling production and actual methods of growing of all important vegetables. Attention is also given to greenhouse and frame crops which are grown to maturity during spring and summer. The texts are mimeographed notes and assigned references.

One-year Vocational Curriculum in Horticulture; three terms; 3 credits each term; 2 recitations; 1 two-hour laboratory period.

A. G. Bouquet

POULTRY HUSBANDRY

Poultry keeping is rapidly growing in importance as a definite part of every well-regulated system of diversified farming, and at the same time offers opportunity for profit-making as a specialized business. The climate of Oregon is particularly adapted to the successful raising of poultry.

Equipment. The equipment includes a five-acre tract of land and the two-story Poultry Building with laboratories for incubation, judging, killing, egg handling, and carpentry, equipped with appliances necessary for practical poultry keeping. Twenty different makes of incubators are available for student practice in incubation. There are twenty-four colony poultry houses of different types, and hatching and brood coops of various styles. Large flocks of Barred Plymouth Rocks and White Leghorns used in experimental breeding work are available for study, and there are pens of several other of the more common breeds and varieties, and individual specimens of 32 of the less common breeds, which are used for student study and practice. There are also sets of charts, lantern slides, motion pictures, and photographs, illustrating breeds of fowls, types of poultry houses, and equipment.

COLLEGIATE COURSES

PH 201. Practical Poultry Keeping. A brief course dealing with practical application of the principles of Poultry Husbandry to general farm conditions. An introductory course for those intending to specialize in this field, recommended also for those who wish a single, elementary course in Poultry Husbandry.

Optional in Agriculture; sophomore year; first term; 3 credits; 2 lectures or recitations; 1 two-hour laboratory period. Fee \$1.00. Text: Lippincott, Poultry Production. *A. G. Lunn*

VM 309. Anatomy of the Fowl. Elective in Agriculture; required in Poultry Husbandry; 2 credits; 1 lecture or recitation; 1 laboratory period. (See courses in Veterinary Medicine.)

PH 311. Poultry Breeding, Breeds, and Judging. A study of breeds of poultry, their history and classification; principles and methods of breeding for different purposes; laboratory work in judging from fancy and utility standpoints.

Prerequisite: PH 201. Optional in Agriculture; required in Poultry Husbandry; junior year; first term; 4 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$1.00. Deposit \$1.00. Text: Dryden, Poultry Breeding and Management. *A. G. Lunn*

PH 321. Incubation and Brooding. A study of the principles and practices involved in natural and artificial incubation and brooding; study of the egg and its development; laboratory work in actual

running of incubators and brooders; opportunity given when possible for students to work out some definite problem.

Prerequisite: PH 201. Optional in Agriculture; required in Poultry Husbandry; junior year; second term; 4 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$1.50. Deposit \$1.00.

A. G. Lunn

PH 331. Poultry-house Design and Construction. A study of the principles of poultry-house designing; estimating the cost of buildings; studying building plans; practice in erecting, remodeling, and making appliances; excursions to neighboring farms.

Prerequisite: PH 201. Optional in Agriculture; required in Poultry Husbandry; junior year; third term; 4 credits; 2 recitations; 2 laboratory periods. Fee \$2.00. Deposit \$1.00. *A. G. Lunn*

VM 351. Poultry Diseases. Elective in Agriculture; required in Poultry Husbandry; third term; 2 credits; 1 lecture or recitation; 2 laboratory periods. (See courses in Veterinary Medicine.)

PH 441. Poultry Feeding. A study of feeds suitable for poultry; principles and practice of feeding for egg production and fattening; feeding young and growing chicks; feeding appliances; the compounding of rations; actual practice in feeding a flock of hens.

Prerequisite: PH 201. Optional in Agriculture; required in Poultry Husbandry; senior year; first term; 4 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$1.00. Deposit \$1.00. *A. G. Lunn*

PH 451. Marketing Poultry Products. Preparation of poultry and eggs for market; methods of storage and preservation; methods of marketing; laboratory work in killing, picking, grading, packing, and shipping poultry; testing, grading, packing, and storing eggs.

Prerequisite: PH 201. Optional in Agriculture; required in Poultry Husbandry; senior year; second term; 4 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$2.00. Deposit \$1.00.

A. G. Lunn

PH 461. Commercial Poultry Practice. Selection of the location, layout, and arrangement of buildings; study of records. Each student works out complete plans for the layout and management of a commercial poultry enterprise.

Prerequisites: PH 321, 331, 441, 451. Optional in Agriculture; required in Poultry Husbandry; senior year; third term; 4 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$1.00. Deposit \$1.00.

A. G. Lunn

PH 481, 482, 483. Seminar. Discussion of Poultry literature and current problems of interest to the advanced student, including critical examination of research methods relating to poultry work. Frequent written reports are required.

Required in Poultry Husbandry; senior year; three terms; 1 credit; 1 meeting a week.

A. G. Lunn

SOILS

The work in Soils includes soil physics, soil drainage, irrigation farming, dry farming, soil fertility, soil surveying, soil biology, and soil management. The purpose of the courses in Soils is to give the student thorough training in this important phase of agriculture, making him competent to manage a farm or preparing him for positions in state or Federal service. The wealth of Oregon rests in her soil and water resources, and their intelligent development, management, and preservation. With the further extension of state and Federal aid to reclamation, there will be a greater demand for men who have a knowledge of how most successfully and economically to use water which the engineer's canals and reservoirs provide. These men must know the best time, amount, and method of irrigation, and the effects of irrigation upon soils and crops. They should also know the relations between soils, soil waters, and drainage, and understand how to locate and construct drains and to treat or fertilize the soil so as to secure the highest possible efficiency for each unit of tiling employed.

Equipment. The Soils laboratories are equipped with apparatus for the complete study of the physical properties of soils and problems of soil management. Ample desk room, supplied with running water, gas, compressed air, and electricity, is available. Electric centrifuges and shakers, electric bridge for alkali testing, electric air baths, analytic and torsion balances, microscopes, blast lamps, aspirators, percolators, capillary tubes, mulch cylinders, soil sieves, scales, solution balance, compression filters, soil sampling tubes, moisture equivalent centrifuge, furnaces, hoods, etc., form a part of the equipment for the work in Soils. Soil surveying and mapping outfits, soil survey charts of the United States, and a collection of samples of the chief soil types of Oregon and the United States, are available. The soil preparation room is equipped with benches, soil-grinding and sifting machinery, and ample space for drying, preparation and storage of large quantities of the different soil types used in the laboratories. For field work in Drainage and Irrigation, surveying instruments, tiles, and ditching tools, weirs, flumes, hook gauges, water-stage register, electric pumping plant, etc., are available. Weather-recording instruments of different kinds supply equipment for the course in Climatology. Laboratories fitted with desks, ovens, etc., afford opportunities for studies of the movement and retention of irrigation water in soil, the effects of irrigation upon soils and crops, the effect of tile drainage upon soils of different types, their rate of drainage, etc. On the College farm the students

build weirs, measure water, lay out distribution systems, make cement pipes for laterals, and test pumping machinery. On the drainage plots, the rate of discharge is measured and the effect of drains and soil conditions on water table are studied. The Exhibit Room is equipped with cases and racks for displays of soil sample collections, subsoils, hard-pans, soil analyses, soil colors, soil drainage and irrigation exhibits, etc. A well-stocked reference library is available. The Experiment Station farms at Corvallis and in other parts of the State, together with the cooperative trials in different counties, offer opportunity for field study of soil problems.

Research. The department of Soils is well equipped for offering research work. The experiment fields, soil tanks, laboratories, and library, and the plans and methods used in soil, irrigation, and drainage investigations offer valuable opportunities to graduate students. See courses Sls 601, 602, 603.

COLLEGIATE COURSES

Sls 201, 202. **Soils.** Origin, formation, and classification of soils; study of the physical properties of soil moisture, heat, and air; effects of tillage, drainage, and irrigation; plant foods and soil fertility; fertilizers; crop rotations; manures; acid and alkali soils.

Prerequisites: Ch 100, 101. Required in Agriculture; sophomore year; first and second terms; 3 credits each term; 2 lectures; 1 recitation; 2 two-hour laboratory periods. Fee \$2.00 each term. Deposit \$1.00 each term. Text: Lyon, Fippin, and Buckman, Soils.

C. V. Ruzek, E. F. Torgerson, W. W. Johnston

Sls 203. **Soil Drainage and Irrigation.** Principles of drainage and of irrigation; use of chain and level as applied to location and installation of tile drains or irrigation laterals; design of tile systems; their effects upon soils and crops; costs and benefits.

Required in Agriculture; sophomore year; third term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$2.00. Deposit \$1.00.

W. L. Powers, W. W. Johnston

Sls 311. **Irrigation Farming.** Methods of obtaining, distributing, and conserving irrigation waters; handling of different crops under irrigation; costs and profits; duty of water in various districts of Oregon; water rights and irrigation codes; field and laboratory studies of irrigation qualities of different soils; laying out of irrigation systems.

Elective; junior year; first term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$1.00. Deposit \$1.00. Text: Widtsoe.

W. L. Powers, W. W. Johnston

Sls 312. Irrigation Farming Elective. Special course for Irrigation Engineering students or other students who cannot take the laboratory course in Irrigation Farming.

Elective; junior or senior year; first term; 2 credits; 2 recitations. *W. L. Powers*

Sls 314. Western Land and Water Laws. A brief history of the development of water laws. Homestead laws, water rights, and irrigation codes in the different states, particularly in the Northwest and Oregon; appropriation, adjudication, and administration of water; reclamation and other Government and state land acts affecting reclamation development; organization and administration of irrigation districts and projects, water users' associations, etc.; discussion of public questions relating to reclamation.

Elective; junior year; second term; 3 credits; 3 recitations. Text: Chandler, Elements of Western Water Law. *W. L. Powers*

Sls 317. Dry Farming. Advanced study of the subject of moisture conservation, special tillage methods and machinery, soil and climatic conditions, etc., in dry-farming regions, with particular reference to Oregon and northwestern states.

Prerequisite: Sls 211 or 215. Elective; junior or senior year; second term; 2 credits; 2 recitations. *W. L. Powers*

Sls 318. Land Drainage. Field study of road, soil, and sanitary drainage; actual surveying, laying out, drafting of plans, estimation of cost, and installation of drainage systems; preparation of a complete report of the organization of a drainage district.

Prerequisite: Sls 201. Elective; junior year; third term; 3 credits; 1 recitation; 2 three-hour laboratory periods (week end). Fee \$1.00. Deposit \$1.00. *W. L. Powers*

Sls 331. Climatology. Practical meteorology; observing and recording local weather and forecasting; a study of the climate of Oregon and the effect of climate upon agriculture. (Given alternate years.)

Elective; junior or senior year; second term; 2 credits; 1 recitation; 1 two-hour laboratory period. Fee \$1.00. Deposit \$1.00.

W. L. Powers, E. F. Torgerson

Sls 411. Irrigation Field Practice. This course aims to give practical knowledge of irrigation farming conditions. Careful records are kept of water used on different soils and crops and of the yield obtained from definite areas. This work may be done during the summer months in connection with duties as ditch rider or other field agent. A report is required and work is to be outlined with the instructor in advance.

Prerequisite: Sls 311. Elective; junior or senior year; any term; 2 to 4 credits. *W. L. Powers*

Sls 414. **Advanced Irrigation.** Irrigation literature and methods of irrigation investigation; field and laboratory studies of irrigation experiments; calculation of depth of water applied and of the most economical production thereby secured; costs and profits connected with irrigation; analysis of data and preparation of a thesis. Field examinations are made, where possible, of some of the largest projects in the State.

Elective; senior year; first term; 3 credits. Fee \$0.50.

W. L. Powers, W. W. Johnston

Sls 417. **Irrigation Management.** A study of the operation and maintenance of irrigation systems; methods and records for water masters; control of agencies destructive to ditches; cost and durability of materials used in distribution of water on the farm; water rotations for different types of farming.

Required in Drainage and Irrigation; senior or graduate year; third term; 1 credit. *W. L. Powers*

Sls 421. **Soil Physics.** Origin, formation, physical composition, and classification of soils; soil moisture, surface, tension, osmosis, capillarity, diffusion, aeration, temperature, and the resulting alteration in crop-producing power; influence of washing, drainage, and irrigation upon soils; laboratory determination and comparison of physical properties of various soil types; physical effect of mulches, rotations, and cropping; soil sampling and judging; mechanical analysis of soils.

Elective; senior year; first term; 5 credits; 3 recitations; 2 three-hour laboratory periods. Fee \$2.00. Deposit \$1.00. Texts: Mosier and Gustafson. O. A. C. Laboratory Manual.

W. L. Powers, E. F. Torgerson

Sls 422. **Soil Physics. Elective.** Similar to Sls 421, but without laboratory work for Agriculture students unable to take the regular course in Soil Physics and for students in Irrigation Engineering.

Elective; senior year; first term; 3 credits; 3 recitations. Text: Mosier and Gustafson. *W. L. Powers*

Sls 424. **Soil Fertility.** Advanced work in composition and values of fertilizers and barnyard and green manures; maintenance and improvement of fertility; effect of the various crops and different systems of farming upon the fertility of the soil; crop rotations and fertility in different sections of the State and the United States; field-plot and pot-culture investigations.

Prerequisite: Sls 421. Elective; senior year; second term; 5 credits; 3 recitations; 2 three-hour laboratory periods. Fee \$2.00. Deposit \$2.00. *C. V. Ruzek*

Sls 425. **Soil Fertility Lectures.** Same as Sls 424, except no laboratory work.

Elective; senior year; second term; 3 credits; 3 recitations. Fee \$0.50. *C. V. Ruzek*

Sls 427. **Soil Surveying.** For the advanced student who desires preparation for service at state experiment stations or in the Government Bureau of Soils. Study of the classification of soils and soil areas of the United States, of Oregon, and of the Northwest; much field work in making regular and completed soil surveys of assigned areas, with a report thereon.

Prerequisite: Sls 421 or 424. Elective; senior year; third term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$1.00.

E. F. Torgerson

Sls 428. **Soil Management.** Occurrence, composition, characteristics, productivity, plant-food requirements, comparative values, and management of different soil types of Oregon.

Prerequisite: Sls 424. Elective; senior or graduate year; third term; 2 credits; 2 recitations. *W. L. Powers*

Sls 441, 442. **Advanced Soil Work.** The advanced student may study the various soil types of Oregon through mechanical analysis, and other physical tests; may undertake field work in soil surveying and mapping; or, through wire-basket, pot-culture, and field-plot tests, may determine the effects of various systems of cropping, or fertilizing, or of soil bacteria, upon soil fertility.

Prerequisites: Sls 411, 421. Elective; senior or graduate year; any term; 2 to 5 credits each term. Fee \$1.00 each term. Deposit \$2.00. *W. L. Powers, C. V. Ruzek*

Sls 451, 452. **Advanced Drainage or Irrigation Work.** Special problems in either subject, such as the drainage of alkali lands, drainage against seepage, study of water-table fluctuations, run-off, etc.; or field studies of the duty of water for a certain district, conservation of irrigation waters, effect of irrigation on soil moisture conditions, etc., as selected by the student.

Elective; senior year; any term; 2 to 5 credits each term. Fee \$0.50 each term. Deposit \$1.00. *W. L. Powers*

Sls 481. **Seminar.** Semi-weekly meetings, alternating with those of the Soil Improvement Club, at which papers on soils subjects are read and discussed. Papers are prepared under supervision of the department.

Required in Soils; junior or senior year; three terms; one-half credit each term.

W. L. Powers, C. V. Ruzek

Sls 601, 602, 603. **Advanced Thesis and Research Work.** Courses for graduate students either as major or minor. Students may select problems in soil physics, analysis, surveying, fertility, irrigation, drainage, soil management, dry farming, or related subjects.

Elective; graduate students; three terms; 5 to 15 credits each term.

VOCATIONAL COURSES

Sls 50. **Farm Soils.** Brief history of origin of soils; fertility of soils; most valuable chemical constituents; their exhaustion and replenishment; most important physical factors; their deterioration and improvement; the physical components; their relative value and amounts in soil mixtures; practice in judging the chief soil types of Oregon; effects upon soils of tillage, manuring, crop rotation, drainage, and irrigation.

Vocational Curriculum; first term; 5 credits; 3 recitations; 2 two-hour laboratory periods. Fee \$1.00. Deposit \$1.00.

E. F. Torgerson

Sls 60. **Practical Farm Drainage.** The value of drainage, the methods and cost of installing drainage systems under different soil and land conditions, district drainage, etc.

Vocational Curriculum; third term; 3 credits; 2 recitations; 1 two-hour laboratory period. Fee \$1.00.

W. L. Powers

Sls 70. **Irrigation Farming Practices.** The most effective methods of handling irrigation waters; the different crops under irrigation, and the cost and profits thereof; organization as affecting water use and control in irrigated districts. (Offered provided six or more students register for the course.)

Elective in Vocational Curriculum; first term; 3 credits; 2 recitations; 1 two-hour laboratory period. Fee \$0.50. Text: Fortier, Use of Water in Irrigation.

W. W. Johnston

Sls 80. **Dry-Farming Practices.** Methods of handling soils under dry-farming conditions; tillage; seeding; moisture control; usable water capacity of dry-farming soils; root systems of dry-land plants, etc. (Offered provided six or more students register for the course.)

Elective in Vocational Curriculum; second term; 2 credits; 2 recitations. Fee \$0.50.

W. L. Powers

VETERINARY MEDICINE

The object of the courses in Veterinary Medicine is to help fit the students for the successful handling of livestock. Comparative Anatomy and Comparative Physiology familiarize the student with the normal structures and functions of the animal body, thus laying a foundation for courses in judging, breeding, feeds and feeding, nutrition, and diseases of animals.

The work in diseases is taken up from the standpoint of the livestock owner. The students learn to recognize diseases, to care for sick animals, and to prevent disease through proper methods of sanitation and management. The importance of quarantine, the different methods of control and eradication of disease, and the role of the stock owners in maintaining this work are considered.

Equipment. This department has its office, physiological laboratory, and lecture room on the second floor of the Dairy Building. Dissections, autopsies, and clinics are conducted in a suitably equipped Veterinary Clinic Building.

COLLEGIATE COURSES

VM 301. Comparative Anatomy. A laboratory course in the anatomy of domesticated animals. Special attention is given to the digestive systems of the horse and the cow; to the foot, the teeth, and the muscles of locomotion of the horse. The work includes complete dissection of the digestive, urinary, genital, and respiratory systems, and partial dissection of the circulatory, muscular, and nervous systems.

Prerequisite: ZP 130 or equivalent. Required in Animal Husbandry and in Dairy Manufactures; junior year; first term; 3 credits; 1 lecture; 3 two-hour laboratory periods. Fee \$1.00. *B. T. Simms*

VM 302. Comparative Anatomy. Continuation of VM 301.

Prerequisite: VM 301. Required in Animal Husbandry and in Dairy Husbandry; junior year; second term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$1.00.

B. T. Simms, F. W. Miller

VM 309. Anatomy of the Fowl. A study of the structure of the body of the fowl.

Required in Poultry Husbandry; junior or senior year; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$1.00. Text: Kaupp, *Anatomy of the Domestic Fowl*.

VM 321. Comparative Physiology. Study of the functions of the body; the physiological processes of all domestic animals, with emphasis on the horse and the cow.

Prerequisites: VM 302, Chemistry or equivalent. Required in Animal Husbandry and Dairy Husbandry; junior year; third term; 3 credits; 3 lectures; 1 two-hour laboratory period. Fee \$1.00.

B. T. Simms

VM 341. Diseases of Livestock. A one-term course for students specializing in the Plant Group. The more common diseases, with methods of prevention and control, are considered. The laboratory work consists of a free clinic.

Elective; junior or senior year; first term; 4 credits; 2 lectures; 2 recitations; 1 two-hour laboratory period. Fee \$0.50. Text: Craig, Common Diseases of Domesticated Animals.

B. T. Simms, F. W. Miller

VM 351. Diseases of Poultry. The parasitic, infectious, and non-infectious diseases of poultry; emphasis upon methods of prevention and control of the parasitic and infectious diseases; observations of autopsies, methods of diagnosis, and treatment of fowls.

Required in Poultry Husbandry; junior or senior year; third term; 3 credits; 3 recitations; 1 two-hour laboratory period. Fee \$0.50. Text: Pearl, Diseases of Poultry.

VM 441, 442, 443. Diseases of Livestock. The parasitic, infectious, and noninfectious diseases of domesticated animals. The laboratory work consists of a free clinic. Students assist in handling the medical cases, operating on the surgical cases, and caring for animals in the hospital.

Prerequisites: VM 302, 321, or equivalent. Required in Animal Husbandry and Dairy Husbandry; senior year; three terms; 3 credits each term; 2 recitations; 1 two-hour laboratory period. Fee \$0.50 each term. Text: U. S. D. A. Diseases of Horses.

B. T. Simms, F. W. Miller

VOCATIONAL COURSE

VM 41. Diseases of Domestic Animals. The study of the common diseases of livestock, veterinary sanitation, and veterinary hygiene.

Required in Vocational Curriculum; third term; 5 credits; 3 recitations; 1 lecture; 2 two-hour laboratory periods. Fee \$0.50. Text: Hadley, The Horse in Health and Disease.

F. W. Miller

SCHOOL OF COMMERCE

WILLIAM JASPER KERR, D.Sc., President of the College.

JOHN ANDREW BEXELL, A.M., Dean of the School of Commerce;
Professor of Business Administration.

MABLE ROBINSON, Secretary.

HECTOR MACPHERSON, Ph.D., Professor of Economics and Sociology;
Director of the Bureau of Organization and Markets.

ULYSSES GRANT DUBACH, Ph.D., Professor of Government and Business Law.

HERBERT TOWNSEND VANCE, Professor of Office Training.

NEWEL HOWLAND COMISH, M.S., Professor of Economics and Sociology.

FRANK ABBOTT MAGRUDER, Ph.D., Associate Professor of Government and Business Law.

ERWIN BERTRAN LEMON, B.S., Assistant Professor of Business Administration.

ETHA MABEL MAGINNIS, Assistant Professor of Office Training.

WILLIAM HENRY DREESEN, Ph.D., Assistant Professor of Economics and Sociology.

JOHN CORCORAN, B.S., Assistant Professor of Business Administration.

LILLIAN BURNS, B.S., Instructor in Stenography.

BERTHA ALICE WHILLOCK, B.S., Instructor in Office Training.

MINNIE KOOPMAN, Instructor in Office Training.

PAUL MEHL, M.S., Marketing Specialist.

The School of Commerce offers two distinct courses of study; namely, (1) a four-year curriculum leading to the degree of Bachelor of Science in Commerce; (2) a two-year vocational curriculum leading to a Certificate. The practical side of every subject is emphasized, the constant aim being to train the student for service and efficiency.

The Degree Curriculum. In the degree curriculum lower classmen may emphasize either accounting or secretarial studies, the latter including stenography and office practice. In the junior year, the student may further specialize in one of the following: (1) Business Administration, (2) Economics and Sociology, (3) Political Science, (4) Secretarial Studies. Instead of the above options, a liberal range of general electives is offered, so that in the junior or senior year, the men may elect courses in Agriculture, Forestry, or Industrial Arts, while the women may elect courses in Home Economics.

Graduate Curriculum in Agricultural Economics and Rural Sociology. Course sequences will be outlined leading to the degree of Master of Science in Agricultural Economics and Rural Sociology. It is strongly recommended that students wishing to pursue this work follow the Agricultural Curriculum during their first two years in College, and elect a minor in Agricultural Economics and Rural Sociology during their junior and senior years.

Students taking the regular Commerce Curriculum, who contemplate studying for the Master's degree in Agricultural Economics and Rural Sociology, should begin in their sophomore year to take certain courses in Agriculture chosen in consultation with the deans of the schools of Agriculture and Commerce.

The aim is to make the graduate work in this field fit students for positions as county agriculturists, positions in the U. S. Department of Agriculture, especially in the Office of Markets and Rural Organization, teachers in colleges and rural high schools, and for rural leadership in general. Students are also prepared for civil service examinations in this general field.

The Vocational Curriculum. This curriculum has been arranged primarily for the benefit of persons who have been unable to finish high school. The only entrance requirements are that the applicant must have had an eighth grade education, or its equivalent, and must be at least eighteen years of age. The student may emphasize book-keeping and business methods, or stenography and typewriting; or he may have an opportunity to take both groups of courses.

Departments. For administrative purposes, the School of Commerce is organized into four distinct departments: (1) Business Administration, (2) Economics and Sociology, (3) Political Science, and (4) Office Training and Stenography.

Requirements for Graduation in the School of Commerce. For the bachelor's degree in the School of Commerce, a total of 201 college credits must be completed by men, and 192 credits by women. It is expected that the suggested schedule as listed elsewhere for this School will be closely followed. Excepting those who major in Marketing (as outlined on page 142), students must complete before graduation credits as indicated in the following table:

| | Credits |
|---|---------|
| Business Administration or Office Training..... | 41 |
| Economics and Sociology | 32 |
| Political Science | 28 |
| General English or Modern Language | 9 |
| Business English | 9 |
| Mathematics | 9 |
| Science | 9 |
| History | 8 |
| Library Practice | 1 |
| Gymnasium, Women 6 credits, men..... | 3 |
| Military Science and Tactics (Men) | 12 |
| Free electives | 40 |
| <hr/> | |
| Total, Women 192 credits, men | 201 |

DEGREE CURRICULUM IN COMMERCE**BUSINESS ADMINISTRATION**

| Freshman Year | Term | | |
|--|------|------|------|
| | 1st | 2d | 3d |
| Bookkeeping and Business Methods, BA 101*..... | 3 | | |
| Principles of Accounting, BA 102 | | 3 | |
| Corporation Accounting, BA 103 | | | 3 |
| Counting Room Mathematics, Mth 101..... | 3 | | |
| Mathematics of Investments, Mth 102 | | 3 | |
| Elements of Statistical Methods, Mth 103 | | | 3 |
| Elementary Typing, OT 111, 112, 113 | 2 | 2 | 2 |
| English Composition, Eng 101 | 3 | | |
| Business Correspondence, Eng 105 | | 3 | |
| Advanced Business English, Eng 106 | | | 3 |
| Commercial Geography, ES 101 | 4 | | |
| Economic History of Europe, ES 111 **..... | | 4 | |
| Recent History of the United States, Hst 122**.... | | | 3 |
| Library Practice, Lib 100 | | | 1 |
| Hygiene (Women) | (1) | | |
| Gymnasium (Men) | 1½ | 1½ | 1½ |
| Gymnasium (Women) | (1) | (1) | (1) |
| Military Science and Tactics | 1 | 1 | 1 |
| <hr/> | | | |
| | 161½ | 161½ | 161½ |

* Students who have had at least one year of bookkeeping should register for BA 102 the first term and BA 103 the second term.

** Option in Home Economics: HAd 140, HA 118, HS 100.

Sophomore Year

| | 1st | Term 2d | 3d |
|---|------------------------|------------------------|------------------------|
| Accounting Practice, BA 201 | 3 | | |
| Industrial Accounting, BA 202 | | 3 | |
| Cost Accounting, BA 203 | | | 3 |
| Office Methods and Appliances, OT 251 | 2 | | |
| Office Management, OT 252, 253 | | 2 | 2 |
| Business Law, PS 201, 202 | 4 | 4 | |
| Principles of Economics, ES 203 | | | 4 |
| Economic History of United States, ES 201*..... | 3 | | |
| History of Oregon, Hst 241 * | | 3 | |
| Europe Since 1915, Hst 212* | | | 3 |
| English Literature or Modern Language | 3 | | |
| American Literature or Modern Language | | 3 | |
| Public Speaking or Modern Language | | | 3 |
| Gymnasium (Men) | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Gymnasium (Women) | (1) | (1) | (1) |
| Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ |

* Optional with Science. Nine credits in Science are required for graduation. The following are recommended: Ch 101, 102, 103; Ph 201, 202; Bac 201; ZP 321; Bot 101. Option in Home Economics: Ch 111, 112, 113, or select courses in School of Home Economics, subject to approval of the head of the department.

STENOGRAPHY AND OFFICE TRAINING

Freshman Year

| | 1st | Term 2d | 3d |
|--|------------------------|------------------------|------------------------|
| Elementary Stenography, OT 101, 102, 103 | 3 | 3 | 3 |
| Elementary Typing, OT 111, 112, 113 | 2 | 2 | 2 |
| Bookkeeping and Business Methods, BA 101 *.... | 3 | | |
| Principles of Accounting, BA 102 | | 3 | |
| Corporation Accounting, BA 103 | | | 3 |
| English Composition, Eng 101 | 3 | | |
| Business Correspondence, Eng 105 | | 3 | |
| Advanced Business English, Eng 106 **..... | | | 3 |
| Economic History of Europe, ES 111 **..... | 4 | | |
| Recent History of the United States, Hst 122**.... | | 3 | |
| Commercial Geography, ES 101 | | | 4 |
| Library Practice, Lib 100 | | 1 | |
| Hygiene (Women) | (1) | | |
| Gymnasium (Men) | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Gymnasium (Women) | (1) | (1) | (1) |
| Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ |

* Students who have had at least one year of bookkeeping, should register for BA 102 the first term, and BA 103 the second term.

** Option in Home Economics: HAd 140, HA 118, HS 100.

Sophomore Year

| | Term | | |
|--|------------------------|------------------------|------------------------|
| | 1st | 2d | 3d |
| Advanced Stenography and Typing, OT 201, 202.. | 5 | 5 | |
| Office Training for Stenographers, OT 203..... | | | 5 |
| Advanced Business Law, PS 201, 202 | 4 | 4 | |
| Principles of Economics, ES 203 | | | 4 |
| Economic History of United States, ES 201 *..... | 3 | | |
| History of Oregon, Hst 241 * | | 3 | |
| Europe Since 1915, Hst 212*..... | | | 3 |
| English Literature or Modern Language | 3 | | |
| American Literature or Modern Language | | 3 | |
| Public Speaking or Modern Language | | | 3 |
| Gymnasium (Men) | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Gymnasium (Women) | (1) | (1) | (1) |
| Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ |

* Optional with Science. Nine credits in Science are required for graduation. The Science courses recommended will be found in the footnote on page 138. Option in Home Economics: Ch 111, 112, 113, or select courses in School of Home Economics, subject to approval of the head of the department.

Junior Year *

| | 1st | Term 2d | 3d |
|--|-----|------------|----|
| Business Organization, BA 331 | 3 | | |
| Business Management, BA 332 | | 3 | |
| Purchasing and Selling, BA 343 | | | 3 |
| Money and Banking, ES 311 | 4 | | |
| General Sociology, ES 305 | | 4 | |
| National Government, PS 301 | 3 | | |
| State and Local Government, PS 302 | | 3 | |
| Municipal Government, PS 303 | | | 3 |
| Military Science and Tactics | 2 | 2 | 2 |
| Electives** | 5 | 5 | 9 |
| | — | — | — |
| | 17 | 17 | 17 |

Senior Year *

| | 1st | Term 2d | 3d |
|---------------------------------------|-----|------------|----|
| Public Finance, ES 401 | 4 | | |
| Markets and Marketing, ES 402 | | 4 | |
| Transportation, ES 403 | | | 4 |
| Comparative Governments, PS 401..... | 3 | | |
| International Relations, PS 402 | | | 4 |
| Electives** | 10 | 13 | 9 |
| | — | — | — |
| | 17 | 17 | 17 |

* The junior and senior schedules may be modified to suit the individual student, provided that the requirements for graduation are met as stated on page 137.

** See pages 143 to 148.

MARKETING

Freshman and Sophomore Years

Major work in Marketing is open to students who have completed the freshman and sophomore years in either Commerce or Agriculture.

Junior Year

| | 1st | Term | |
|---|-----|------|----|
| | | 2d | 3d |
| Agricultural Economics, ES 362 * | | 3 | |
| Farm Accounts and Business Management, BA 361 | 3 | | |
| Rural Finance, ES 367 | 3 | | |
| Economic Organization of Agriculture, ES 364.... | | 3 | |
| Rural Sociology, ES 464 | | | 3 |
| Business Management, BA 332 | | | 3 |
| Advanced Business Law, PS 201, 202 | 4 | 4 | |
| Crop Production, FC 100 | | | 5 |
| Elements of Dairying, DH 200 | 4 | | |
| Stock Judging, AH 111 | | 3 | |
| Market Business Practice, BA 363 | | | 3 |
| Free electives | 3 | 4 | 3 |
| | — | — | — |
| | 17 | 17 | 17 |

Senior Year

| | 1st | Term | |
|--|-----|------|----|
| | | 2d | 3d |
| Markets and Marketing, ES 402, 603 | | 4 | 4 |
| Transportation, ES 403 | | | 4 |
| Insurance, ES 303 | | | 4 |
| State and Local Government, PS 302 | | 3 | |
| National Government, PS 301 | 3 | | |
| Principles of Advertising, BA 441 | | 3 | |
| Farm Management, FMg 302 | | 4 | |
| Livestock Management, AH 221 | 4 | | |
| Elements of Horticulture, Hrt 100 | 5 | | |
| Free electives | 5 | 3 | 5 |
| | — | — | — |
| | 17 | 17 | 17 |

* Students in Commerce may substitute ES 203 for this course. Students in Agriculture who intend to take the major in Marketing should elect ES 362 in the sophomore year.

SUGGESTED ELECTIVE COMBINATIONS

While the student may choose other subjects than those enumerated below, he is strongly urged to adopt one of these suggested combinations.

1. BUSINESS ADMINISTRATION

Junior Year

| | 1st | Term 2d | 3d |
|---|---------|------------|---------|
| Bank Accounting and Administration, BA 301..... | 3 | | |
| Auditing, BA 302 | | 3 | |
| C. P. A. Problems, BA 303 | | | 3 |
| Public Speaking | | | 3 |
| Free electives | 2 | 2 | 3 |
| | <hr/> 5 | <hr/> 5 | <hr/> 9 |

Senior Year

| | | | |
|--|----------|----------|---------|
| Governmental and Institutional Accounting, BA 401 | 3 | | |
| Analysis of Accounts, BA 402 | | 3 | |
| Elements of Statistics, ES 313 | | | 3 |
| Principles of Advertising, BA 441 | | 3 | |
| Elementary Industrial Journalism, IJ 200..... | 3 | | |
| Markets and Marketing, ES 603 | | | 4 |
| Free electives | 4 | 7 | 2 |
| | <hr/> 10 | <hr/> 13 | <hr/> 9 |

2. ECONOMICS AND SOCIOLOGY

Junior Year

| | | | |
|---------------------------|---------|---------|---------|
| Modern Language | 3 | 3 | 3 |
| Cooperation, ES 323 | | | 4 |
| Free electives | 2 | 2 | 2 |
| | <hr/> 5 | <hr/> 5 | <hr/> 9 |

Senior Year

| | 1st | Term 2d | 3d |
|---|----------|------------|---------|
| Governmental and Institutional Accounting, BA 401 | 3 | | |
| Analysis of Accounts, BA 402 | | 3 | |
| Thesis in Accounting and Business Management, BA 403 | | | 3 |
| Modern Language | 3 | 3 | 3 |
| Free electives | 4 | 7 | 3 |
| | <hr/> 10 | <hr/> 13 | <hr/> 9 |

3. POLITICAL SCIENCE**Junior Year**

| | | | |
|----------------------|---------|---------|---------|
| English | 3 | 3 | 3 |
| Free electives | 2 | 2 | 6 |
| | <hr/> 5 | <hr/> 5 | <hr/> 9 |

Senior Year

| | | | |
|---|----------|----------|---------|
| Governmental and Institutional Accounting, BA 401 | 3 | | |
| Analysis of Accounts, BA 402 | | 3 | |
| Thesis in Accounting and Business Management, BA 403 | | | 3 |
| Practical Legislation, PS 412 | | 4 | |
| Advanced American Government, PS 411 | 4 | | |
| Free electives | 3 | 6 | 6 |
| | <hr/> 10 | <hr/> 13 | <hr/> 9 |

4. OFFICE TRAINING**Junior Year**

| | | | |
|---|---------|---------|---------|
| Reporters' Course, OT 401, 402, 403 | 3 | 3 | 3 |
| Accounting Practice, BA 201 | | | 3 |
| Free electives | 2 | 2 | 3 |
| | <hr/> 5 | <hr/> 5 | <hr/> 9 |

Senior Year

| | 1st | Term 2d | 3d |
|---|----------|------------|---------|
| Principles of Advertising, BA 441 | | 3 | |
| General Sociology, ES 305 | 3 | | |
| Applied Sociology, ES 413 | | | 3 |
| Markets and Marketing, ES 603 | | | 4 |
| Elementary Industrial Journalism, IJ 200..... | 3 | | |
| Free electives | 4 | 10 | 2 |
| | <hr/> 10 | <hr/> 13 | <hr/> 9 |

5. MINOR IN COMMERCIAL EDUCATION**Junior Year**

| | | | |
|--|---------|---------|---------|
| Elementary Psychology, Psy 301 | 3 | | |
| Vocational Psychology, Psy 312 | | 3 | |
| Educational Psychology, Psy 322 | | | 3 |
| Free electives in Vocational Education | 2 | 2 | 6 |
| | <hr/> 5 | <hr/> 5 | <hr/> 9 |

Senior Year

| | | | |
|--|----------|----------|---------|
| Secondary Education in Commerce, CEd 451..... | 3 | | |
| Practice Teaching in Commerce, CEd 461, 462..... | | 5 | 5 |
| Free electives in Vocational Education | 7 | 8 | 4 |
| | <hr/> 10 | <hr/> 13 | <hr/> 9 |

6. MINOR IN AGRICULTURE**Junior Year**

| | | | |
|---|---------|---------|---------|
| Crop Production, FC 100 | 5 | | |
| Elements of Horticulture, Hrt 100 | | 5 | |
| Elements of Dairying, DH 200 | | | 4 |
| Free electives in Agriculture | | | 5 |
| | <hr/> 5 | <hr/> 5 | <hr/> 9 |

Senior Year

| | 1st | Term 2d | 3d |
|---|----------|------------|---------|
| Stock Judging, AH 111 | 3 | | |
| Farm Management, FMg 302 | | 4 | |
| Soil Drainage and Irrigation, Sls 203 | | | 3 |
| Free electives in Agriculture | 7 | 9 | 6 |
| | <hr/> 10 | <hr/> 13 | <hr/> 9 |

7. MINOR IN HOME ECONOMICS**Junior Year**

| | | | |
|--|---------|---------|---------|
| Home Management for Business Women, HAd 140 | 3 | | |
| Dress Design and Construction, HA 118 | | 3 | |
| Principles of Foods and Cookery, HS 101 | | | 3 |
| Free electives | 2 | 2 | 6 |
| | <hr/> 5 | <hr/> 5 | <hr/> 9 |

Senior Year

| | | | |
|---|----------|---------|---------|
| Household Chemistry, Ch 111, 112, 113 | 3 | 3 | 3 |
| Electives in Home Economics | 7 | 5 | 6 |
| | <hr/> 10 | <hr/> 8 | <hr/> 9 |

Any who have taken the above subjects in the freshman and sophomore years will select advanced courses, subject to approval of the head of the department.

8. MINOR IN ENGINEERING**Junior Year**

| | | | |
|--------------------------------------|---------|---------|---------|
| Plane Trigonometry, Mth 111 | 4 | | |
| Algebra, Mth 121 | | 4 | |
| Differential Calculus, Mth 251 | | | 4 |
| Engineering Survey, ME 101 | | 1 | |
| Woodwork, IA 121 | | | 2 |
| Free electives in Engineering | 1 | | 3 |
| | <hr/> 5 | <hr/> 5 | <hr/> 9 |

Senior Year

| | 1st | Term 2d | 3d |
|---|----------|------------|---------|
| Mechanical Drawing, ME 111 * | 2 | | |
| Gas or Steam Engines, ME 124 or 122*..... | | 3 | |
| Auto Mechanics, IA 181 | | | 2 |
| Free electives in Engineering | 8 | 10 | 7 |
| | <hr/> 10 | <hr/> 13 | <hr/> 9 |

9. MINOR IN PHYSICAL EDUCATION**Junior Year**

| | | | |
|---|---------|---------|---------|
| General Zoology, ZP 101, 102 | 3 | 3 | |
| Comparative Zoology, ZP 103 | | | 3 |
| Advanced Aesthetic Dancing, PEw 331, 332, 333.... | 1/2 | 1/2 | 1/2 |
| Advanced Outdoor Sports, PEw 241, 242, 243..... | 1/2 | 1/2 | 1/2 |
| Free electives (Education recommended)..... | 1 | 1 | 5 |
| | <hr/> 5 | <hr/> 5 | <hr/> 9 |

Senior Year

| | | | |
|---|----------|----------|---------|
| Physiology and Anatomy, ZP 211, 212, 213 | 3 | 3 | 3 |
| Organization and Administration of Physical Education and Recreation, PEw 472 | | 3 | |
| Advanced Hygiene and Sanitary Science, PEw 423 | | | 2 |
| History of Physical Education, PEw 431 | 3 | | |
| Free electives (English or Education recommended) | 4 | 7 | 4 |
| | <hr/> 10 | <hr/> 13 | <hr/> 9 |

10. MINOR IN INDUSTRIAL JOURNALISM**Junior Year**

| | | | |
|---|---------|---------|---------|
| Elementary Industrial Journalism, IJ 200 | 3 | | |
| Industrial Journalism, IJ 310 | | 3 | |
| Editing, IJ 320 | | | 3 |
| Free electives in English and Industrial Journalism | 2 | 2 | 6 |
| | <hr/> 5 | <hr/> 5 | <hr/> 9 |

* Optional with selected subjects in other departments of Engineering, subject to approval of the head of the department.

Senior Year

| | 1st | Term 2d | 3d |
|---|----------|------------|---------|
| Editorial Writing, IJ 440 | 3 | | |
| Journalism Practice, IJ 204 | | 2 | |
| Technical Journalism, IJ 330 | | | 3 |
| Free electives in English and Industrial Journalism | 7 | 11 | 6 |
| | <hr/> 10 | <hr/> 13 | <hr/> 9 |

VOCATIONAL CURRICULUM IN COMMERCE**First Year**

| | | | |
|--|-----------|-----------|-----------|
| Bookkeeping and Business Methods, BA 101, or Elementary Stenography, OT 101 | 3 | | |
| Principles of Accounting, BA 102, or Elementary Stenography, OT 102 | | 3 | |
| Corporation Accounting, BA 103, or Elementary Stenography, OT 103 | | | 3 |
| Elementary Typewriting, OT 111, 112, 113 | 2 | 2 | 2 |
| Vocational English, Eng 11, 12, 13 | 3 | 3 | 3 |
| Elementary Commercial Geography, ES 21 | | 3 | |
| United States History, Hst 10 | 3 | | |
| American Civil Government, PS 13 | | | 3 |
| Commercial Arithmetic, Mth 91, 92, 93 | 3 | 3 | 3 |
| Penmanship, BA 11, 12, 13 | 1 | 1 | 1 |
| Gymnasium (Men) | 1½ | 1½ | 1½ |
| Gymnasium (Women) | (1) | (1) | (1) |
| Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 16½ | <hr/> 16½ | <hr/> 16½ |

Second Year

| | 1st | Term 2d | 3d |
|--|------------------------|------------------------|------------------------|
| Accounting Practice, BA 201 | 3 | | |
| Industrial Accounting, BA 202 | | 3 | |
| Cost Accounting, BA 203 | | | 3 |
| Office Methods and Appliances, OT 251 | 2 | | |
| Office Management, OT 252, 253 | | 2 | 2 |
| Advanced Vocational English, Eng 21, 22, 23..... | 3 | 3 | 3 |
| Elementary Industrial Problems, ES 23 | | 3 | |
| Elementary Industrial History, ES 22 | 3 | | |
| Business Law, PS 23 | | | 3 |
| Advanced Penmanship, BA 21, 22, 23 | 1 | 1 | 1 |
| Gymnasium (Men) | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Gymnasium (Women) | (1) | (1) | (1) |
| Military Science and Tactics | 1 | 1 | 1 |
| Electives | 3 | 3 | 3 |
| | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ |

BUSINESS ADMINISTRATION

The distinctive work of the department of Business Administration is to train men and women for efficient business organization and management. This includes thorough courses in the various phases of accounting, auditing, business organization, scientific management, advertising, and salesmanship.

While the courses in Business Administration are primarily designed to fit students for the counting-house and business office, including banking, such positions are generally only stepping stones to work of greater trust and responsibility. A large percentage of the commercial students eventually engage in business of their own.

The School of Commerce has taken a leading part in developing courses in business methods especially adapted to the farm and other industrial enterprises, the home, and cooperative institutions. Such courses are given not only in residence but also by correspondence.

When it is remembered that every vocation has its business side, and that this phase of all pursuits is receiving increasing attention, it is apparent that the avenues of employment and the chances for promotion for the really competent business expert are almost unlimited. As a preparation for law or public accounting, the work of this department, combined with Economics and Political Science, is especially attractive. A large proportion of the graduates in Commerce find employment as teachers of commercial subjects in state and private schools; to them the courses in Business Management are very important.

Equipment. The department of Business Administration is completely equipped for thorough and efficient work in modern business courses. Each room is especially designed and furnished for the work conducted in it. The furniture of the department consists of individual desks and counters and complete sets of office fixtures. Permanent blank books, letter files, rubber stamps, blanks, and similar material are provided by the department. Modern accounting and office machinery of various types, including adding machines, posting machines, a bookkeeping typewriter, calculating machines, duplicators, mimeographs, dictaphones, mimeoscope, filing cabinets, and typewriters, is available for student practice.

For outline of courses in Business Administration, see pages 137, 138, 143.

COLLEGIATE COURSES

BA 101. Bookkeeping and Business Methods. A thorough but rapid study of the general principles of bookkeeping. The aim of this course is to afford those students entering the Vocational or

Degree curricula in Commerce, who have not had a year of bookkeeping, an opportunity to secure preparation which will enable them to carry course BA 102.

Required in Commerce (freshman year) and in Vocational Curriculum (first year); any term; 3 credits; 3 recitations. Fee \$1.00. Text: 20th Century Bookkeeping and Accountancy. *J. J. Corcoran*

BA 102. Principles of Accounting. Modern accounting as practiced in the best business establishments; the use of special columns; controlling accounts, and their adaptations; labor-saving devices of all kinds studied with a constant view to secure greater accuracy and to diminish work; practice in retail, wholesale, and financial statements.

Prerequisite: BA 101 or equivalent. Required in Commerce (freshman year) and in Vocational Curriculum (first year); any term; 3 credits; 2 recitations; 3 two-hour laboratory periods. Fee \$1.00. Text: 20th Century Bookkeeping and Accountancy.

J. J. Corcoran

BA 103. Corporation Accounting. Theory of Manufacturing bookkeeping and the preparation of books illustrating corporation bookkeeping as applied to manufacturing business; a further study of special-column books, card systems, and filing devices, with reference to the saving of time and labor in bookkeeping, as applied to modern corporation business; preparation of books illustrating the principles involved. Text supplemented by selected problems.

Prerequisite: BA 102 or equivalent. Required in Commerce (freshman year) and in Vocational Curriculum (first year); any term; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$1.00. Text: 20th Century Bookkeeping and Accountancy.

J. J. Corcoran

BA 201. Accounting Practice. Depreciation reserves, and investment accounting; advanced forms of financial statements; statement of affairs and deficiency account; realization and liquidation; business practice to supplement all the theoretical courses and to develop initiative and originality.

Prerequisite: BA 103. Required in Commerce (sophomore year) and in Vocational Curriculum (second year); any term; 3 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$1.00. Text: Klein, Elements of Accounting.

J. J. Corcoran

BA 202. Industrial Accounting. A study of the accounting required by different industrial enterprises such as cooperative stores, grain elevators, creameries, large estates, etc. Publications issued by the United States Office of Markets are the basis of this course.

Prerequisite: BA 201. Required in Commerce; sophomore year; second term; 3 credits; 1 lecture; 1 recitation; 2 two-hour laboratory periods. Fee \$1.00. *E. B. Lemon*

BA 203. Cost Accounting. This course covers the broader economic phases of accounting. Emphasis is laid on accounts as a means of administrative control and economy of production. (a) Theory of Cost Accounting. The elements of costs; cost and stock records; relation of cost accounts to the financial records; distribution of overhead; cost statements; graphical representation of costs. (b) Factory Costs. A laboratory course especially adapted to a manufacturing business with a considerable pay-roll.

Prerequisite: BA 103 or BA 261. Required in Commerce; sophomore year; third term; 3 credits; 1 lecture; 1 recitation; 2 laboratory periods. Fee \$1.00. Text: Nicholson, Cost Accounting.

E. B. Lemon

BA 231. Introduction to Accounting. A thorough but rapid study of the general principles of bookkeeping and accounting, designed for students not taking Commerce who may later desire to familiarize themselves with an accounting system adapted to their particular vocations.

Elective to students other than Commerce; sophomore year; any term; 3 credits; 1 lecture; 2 recitations. Fee \$0.50. *E. B. Lemon*

BA 301. Bank Accounting and Administration. A practical course in bank accounting, organization, and administration; the records and reports required of national and state banks; preparation and interpretation of bank reports; bank and clearing-house statistics; trust companies and savings banks; foreign exchange. Text supplemented by selected exercises.

Prerequisite: BA 201 or equivalent. Elective in Commerce; junior year; first term; 3 credits; 1 lecture; 2 recitations. Text: Wolfe, Practical Banking.

BA 302. Auditing. The duties and responsibility of the auditor; his function in the executive staff; his relation to the accounting department; different classes of audits; investigation in the conduct of the utility corporations, municipalities, and public institutions. Typical audits will be studied and compared. Text supplemented by selected exercises.

Prerequisite: BA 201 or 203. Elective in Commerce; junior year; second term; 3 credits; 1 lecture; 2 recitations. Text: Montgomery, Auditing in Principle and Practice. *J. J. Corcoran*

BA 303. C. P. A. Problems. This course covers a large variety of practical problems viewed from the standpoint of the manager

rather than the accountant. The material is drawn from certified public accountancy examinations and other sources. The student does not follow any prescribed form of treatment or solution, but is expected to develop analytical initiative, resourcefulness, and originality. Designed as a preparation for the C. P. A. examination. Text supplemented by selected exercises.

Prerequisite: BA 201 or BA 203. Elective in Commerce; junior year; third term; 3 credits; 2 recitations; 2 two-hour laboratory periods. Text: Cox, C. P. A. Problems. *J. J. Corcoran*

BA 331. Business Organization. General nature of business organization; evolution and forms of business units; structure and life history of typical corporations; the corporation and trust problem; public utility corporations; reorganization and receivership; blue sky laws and state control.

Required in Commerce; elective to others; junior year; first term; 3 credits; 1 lecture; 2 recitations. Texts: Haney, Business Organization. Babson's Reports. *J. A. Bexell, W. H. Dreesen*

BA 332. Business Management. Emphasis on the internal organization of a business for the purpose of securing efficiency; departmental organization and coordination; various systems of scientific management studied and compared.

Required in Commerce; elective to others; junior year; second term; 3 credits; 1 lecture; 2 recitations. Text: The Executive and His Control of Men. *J. A. Bexell*

BA 343. Purchasing and Selling. (a) Purchasing. Principles of purchasing; relations of buying to successful merchandising and manufacturing; ethics of buying; the purchasing organization; records of purchasing; stores, their function and operation; markets; agents; brokers; jobbers; wholesalers; transportation; reports and statistics. (b) Selling. Qualifications of a salesman; business ethics; wholesaling and retailing; brokerage and commission; specialty selling; the sale of service; planning a selling campaign; special sales; prices and profits.

Required in Commerce; elective to others; junior year; third term; 3 credits; 1 lecture; 2 recitations. Texts: Twyford, Purchasing. Neystrom, Retail Selling. Babson's Reports. *J. A. Bexell*

BA 361. Farm Accounting and Business Management. (a) Farm Accounting. A thorough discussion of a system of accounts suited to the farm. Cost accounting is especially emphasized, with a view to determining the results of different enterprises. A thorough study is made of the income tax law as related to farm accounting. (b) Business Organization and Management. Individual proprietorship,

partnership, joint-stock companies, and corporations; their adaptations from the standpoint of efficiency; status of stockholders; rights and obligations of bondholders; functions of officers and directors treated in detail; principles of efficient business management.

Required in Agriculture; junior year; first term; 3 credits; 1 lecture; 2 recitations. Texts: Bexell and Nichols, Principles of Bookkeeping and Farm Accounts. Robinson, Organizing a Business.

E. B. Lemon

BA 362. Dairy Accounting. Students who are not acquainted with the elements of double-entry bookkeeping are required to work out several practice sets and master the theory of accounts before taking up dairy accounting. In the last third of the course special attention is given to the development of a system of accounts suited to the dairy business. Text supplemented by selected exercises.

Elective in Agriculture; junior year; second term; 3 credits; 1 lecture; 2 recitations. Texts: Bureau of Markets Bulletin. I. C. S., Cost Accounting.

E. B. Lemon

BA 363. Market Business Practice. This course covers the business management of cooperative societies. It includes such subjects as organization of the employees; buildings, office arrangement, and equipment; correspondence and filing; bookkeeping and cost accounting especially adapted to different types of cooperative associations in the United States, such as creamery associations and cow-testing associations; auditing; banking and finance; purchasing; advertising; selling; depreciation of assets; conduct of membership meetings; annual reports and audits; statistical analysis of operations.

Elective; junior year; third term; 3 credits; 1 lecture; 2 recitations. Text: The Cooperative Secretary. United States Bureau of Markets Bulletins.

E. B. Lemon

BA 371. Business Management for Women. The aim of this course is to treat in a practical way the ordinary rules and methods of conducting business affairs. Two distinct phases are emphasized as follows: (a) Finance. Value of money, how savings grow, banking and credit, general principles of investment, loan associations, bonds, stocks, and insurance. (b) Fundamentals of Business Law. The principles of the law of contracts, of negotiable paper, mortgages, real property, and wills.

Required in Home Economics; junior year; third term; 3 credits; 1 lecture; 2 recitations. Text: Cromwell, American Business Woman.

E. B. Lemon

BA 381. Industrial Organization and Management. Principles of business organization; types; locating an industry; plant and equip-

ment; buying, receiving, storing, and recording material; budget and planning; determination of costs; standardization; scientific management and time studies; wage, welfare, and employment problems; reports to executives.

Required in Engineering; elective to others; junior year; second or third term; 3 credits; 3 lectures and recitations. Text: Diemer, *Industrial Organization and Management*.

J. A. Bexell, W. H. Dreesen

BA 391. Army Paper Work. A study of the business methods and accounting of the United States Army as represented by its blanks and forms, and the regulations governing the use of the same. The business methods of the Supply and Adjutant General Department are analyzed and compared with those used in civil life. Considerable outside reading is required to obtain credit in this course.

Elective; junior or senior year; any term; 2 credits; 1 lecture; 1 recitation.

BA 401. Governmental and Institutional Accounting. Financial and property accounting, especially as applied to the municipal, state, and national governments and institutions; estimates, appropriations, apportionments, allotments, methods of handling pay; purchase of supplies and equipment; property accounting and accountability; how supplies and property are obtained, issued, and accounted for in the various organizations; the preparation of budgets and reports. Government documents and bulletins constitute text.

Prerequisite: BA 201 or equivalent. Elective; senior year; first term; 3 credits; 1 lecture; 2 recitations.

J. A. Bexell

BA 402. Analysis of Accounts. Interpretation of balance sheets, income sheets, and financial reports; graphical representation of business statistics; preparation of income tax statements. Government documents and bulletins used as texts.

Prerequisites: BA 302, 332. Elective; senior year; second term; 3 credits; 1 lecture; 2 recitations.

J. A. Bexell

BA 403. Thesis in Accounting and Business Management. A research course and treatise on the organization and management of a business in which the student is especially interested. The subject of the thesis must be chosen at the time of registration, and a complete outline approved by the professor in charge, not later than November 1. When the thesis is approved, a bound (either printed or typewritten) copy must be deposited in the College Library. Subject and list of reading to be approved within two weeks from date of registration.

Prerequisite: All College courses in Accounting and Business Management, or equivalent. Open only to seniors in Commerce; any term; 3 credits. *J. A. Bexell*

BA 441. Principles of Advertising. Psychology and functions of advertising; classification and mediums; writing of copy and proof reading; types and display; engraving and printing methods; advertising and follow-up systems; advertising agencies.

Prerequisite: BA 343. Required in Commerce; elective to others; senior year; second term; 3 credits; 1 lecture; 2 recitations. *J. A. Bexell*

VOCATIONAL COURSES

BA 11, 12, 13. Penmanship. Students entering the Vocational Curriculum are expected to have acquired good handwriting in the grades, but considerable time is devoted during the first year to mastering the best form of business writing and lettering.

Required in Vocational Curriculum; first year; three terms; 1 credit each term; 1 recitation. *J. B. Horner*

BA 21, 22, 23. Advanced Penmanship. Emphasis is laid on rapid business writing, correct forms of business papers, lettering, and designing.

Prerequisite: BA 13 or equivalent. Required in Vocational Curriculum; second year; three terms; 1 credit each term; 1 recitation. *J. B. Horner*

BA 61. Farm Accounts and Business Methods. An elementary course in the principles of bookkeeping and business methods as they apply to the farm; farm cost accounts and financial reports, with special reference to the income tax report; special records; inventories, valuation and depreciation; elements of banking; negotiable papers; the business letter; business forms; office equipment.

Required in Agriculture Vocational Curriculum; second term; 3 credits; 1 lecture; 2 recitations. *E. B. Lemon*

BA 71. Shop Accounting. A course in the theory and practice of accounting, especially adapted to the shop. Sufficient time is devoted to the fundamental principles of bookkeeping to familiarize the student with the use of special columns and various labor-saving devices. A special set of books adapted to the shop is then studied and prepared, making the course exceptionally practical. Text supplemented by original exercises.

Required in Mechanic Arts Vocational Curriculum; third term; 3 credits; 1 lecture; 2 recitations. Text: I. C. S., Cost Accounting.

ECONOMICS AND SOCIOLOGY

Including Rural Markets and Rural Organization

The work of this department serves the following purposes:

(1) **To train both men and women for citizenship.** Every citizen has business relations requiring a knowledge of the fundamental principles of economics. The necessity of such knowledge is especially felt in a democracy where every man and woman has the right to vote and is called upon to mold legislation directly. The basis for intelligently exercising this paramount duty of citizenship can only be supplied by a training in economics and sociology, the problems of which form the subject-matter of most legislation.

(2) **To provide economic training for technical students.** Three credits in economics are now required of all students in the College. In consultation with the deans of the various schools, required and elective courses have been worked out supplementary to the work of each school.

(3) **To train specialists in Agricultural Economics and Rural Sociology.** The School of Agriculture provides that students may elect a minor in Agricultural Economics and Rural Sociology. Such a minor affords excellent preparation for those who intend to go back to the farm and assume positions of business, educational, and political leadership. It gives the training needed for positions in state and Federal bureaus of markets. It lays a foundation for a business career as commission man, broker, jobber, wholesaler, or exporter of farm products. It should give the best possible training for positions as county agents, where capacity for leadership outweighs all other considerations.

(4) **To do field work. The Bureau of Organization and Markets.** In 1914 the Board of Regents established the Bureau of Organization and Markets for the purpose of assisting farmers in marketing their products. The Bureau has been carrying on its work in cooperation with the Bureau of Markets of the United States Department of Agriculture.

The work of the Bureau, in the first place, is investigational. It aims to find out the conditions fundamental to successful marketing, and to place the results of its investigation at the disposal of all who are interested. In the second place, it is at the service of any group of farmers contemplating the establishment of any sort of business organization. It has worked out model constitutions and by-laws and standardized systems of accounting; it has lists of equipment and, in cooperation with the various technical departments of the

College, can inform farmers where such equipment can be most cheaply obtained. It also assists organizations in planning the kind of plants necessary to carry on their business.

Equipment. The department has for some years been developing a commercial museum for use in the various courses in economic and social science. The museum has now grown to such an extent that it is a very important factor in making the work of the department practical and successful. The Bureau of Organization and Markets also has a collection of bulletins, pamphlets, lantern slides, and documents illustrating the farmers' marketing and organization movement in all parts of the world.

COLLEGIATE COURSES

ES 101. Commercial Geography. The physiographic basis of commerce and industry; the natural resources of the different countries of the world; the geographic distribution of labor and industry as determined by natural conditions such as climate, topography, soil, and mineral resources. Specimens from the Commercial Museum are used by the students. Assigned readings, outline maps.

Required in Commerce and Industrial Arts (freshman year) and in Mechanical Engineering (sophomore year); any term; 4 credits; 4 recitations. Text: Robinson, Commercial Geography.

W. H. Dreesen

ES 111. Economic History of Europe. A course covering the most important economic changes and achievements in Europe during the past three hundred years; study of the rise and decline of the manorial system; important changes in agriculture; rise of factory system; trades unionism; the development of commercial policies; labor conditions and legislation, together with socialism and social insurance.

Required in Commerce; freshman year; first or second term; 4 credits; 4 recitations. Text: Ogg, Economic Development of Modern Europe.

W. H. Dreesen

ES 201. Economic History of the United States. On the basis of a knowledge of our natural resources and of the previous commercial and economic development of the world, attempt is made to outline and interpret the economic and social progress of the United States. The development of agriculture, the growth of manufacturing, the improvement of transportation, the history of labor organization and legislation, the evolution of our monetary and credit systems, changes in the protective tariff, progress towards economic and social solidarity, etc., are traced from Colonial times onward.

Prerequisites: ES 101, 111. Required in Commerce; sophomore year; first term; 3 credits; 3 recitations.

H. Macpherson

ES 203. Principles of Economics. A general course covering the elementary problems of our industrial and commercial organization, the nature of wealth, its production and consumption, the different forms in which it is found; conditions underlying successful commerce and manufacturing; localization of industry and relation of raw material to manufacturing; law of diminishing returns; division of labor and efficiency production; exchange and distribution and their dependence upon the price-making process; factors determining prices, wages, interest, and rent; problems of taxation; public expenditures; protection and free trade; money and banking; labor problems and transportation. Text-book, lectures, and reports on assigned readings.

Prerequisites: ES 101, 201. Required in Commerce; sophomore year; third term; 4 credits; 4 recitations. Text: Ely, *Outline of Economics*. Marshall, Wright and Field, *Materials for the Study of Elementary Economics*. *N. H. Comish*

ES 211. Conservation. Economic wastes arising out of the exploitation of natural resources; the mal-adjustment of industry; the misdirection of labor; the present order of consumption; conservation laws and policies tending to eliminate wastes and abuses.

Elective; first term; 3 credits; 3 recitations. Open to any student who has had ES 203, ES 361, or ES 362, or equivalent.

N. H. Comish

ES 301. Labor Problems. Brief historical review of the rise of a labor class; influence of occupation upon the laborer; beginnings of organization; structure, aims, methods of offense and defense; achievements of associations of labor; the trade agreement; the strike; the boycott; the lockout; methods of conciliation and arbitration; application of the injunction in labor disputes; political activity of labor organizations; the employers' association; the employers' liability; workingmen's insurance; profit-sharing and cooperation in relation to labor problems. Text-book, lectures, and assigned readings. Studies are made of typical historical and current labor disputes and embodied in term papers and class discussion.

Prerequisite: ES 203 or ES 391. Elective in Commerce (junior or senior year); required in Forestry (sophomore year); second term; 4 credits; 4 recitations.

H. Macpherson

ES 303. Insurance. A course designed to cover, in a general way, the whole field of insurance. Nature and statistical basis of different kinds of insurance; application of the principles discovered to different forms of insurance such as straight life, endowment, accident, industrial, old age, fire, livestock, hail, etc., taken up in detail.

Elective; junior or senior year; third term; 4 credits; 4 recitations. Text: Heubner, Life Insurance, Property Insurance.

W. H. Dreesen

ES 305. General Sociology. Origin, development, present conditions, and social functioning of our social units, such as the family, the school, the church, clubs, associations, institutes, etc.; the city, state, and nation; interpretation of the causes of the strength and weakness of modern social institutions, showing their influence upon the general welfare of society and the progress toward greater efficiency; analysis of the social causes and effects of ignorance; vice and crime; poverty; unstable family relations; political dishonesty, etc.; general discussion of the principles underlying their elimination.

Elective; junior year; second term; 4 credits; 4 recitations.

H. Macpherson

ES 311. Money and Banking. (a) Money. The nature and functions of money; legal tender; the factors affecting price, and their relation to business conditions; brief history of the various forms of paper money; silver legislation; present problems and conditions. (b) Banking. Functions of banks; history of banking, including our national banking system, with emphasis upon the Federal Reserve Bank Act; currency and banking principles underlying United States and foreign banking systems; comparison of our banking system with those of foreign countries. Assigned readings.

Prerequisite: ES 203. Commerce; junior year; first term; 4 credits; 4 recitations. Text: Holdsworth, Money and Banking.

W. H. Dreesen

ES 313. The Elements of Statistics. A description of the methods of collecting and interpreting original and secondary data; practice in scientifically presenting statistics in such forms as tables, charts, diagrams, curves, and maps.

Elective; junior, senior, or graduate year; third term; 3 credits; 3 recitations. Text: Secrist, Introduction to Statistical Methods.

W. H. Dreesen

ES 323. Cooperation. Origins, structures, objects, methods, and results of cooperative producers', consumers', and marketing associations, including, for example, such cooperative organizations as creameries, cheese factories, meat factories, stores, purchasing societies, consumers' leagues, warehouses, grain elevators, fruit and vegetable associations, livestock societies, credit and insurance companies.

Elective to juniors and seniors who can not take ES 364 and ES 367, and who have had ES 203, ES 361, or ES 362, or equivalent; third term; 4 credits; 4 recitations. *N. H. Comish*

ES 362. Agricultural Economics. Fundamental principles of production, consumption, and distribution with special reference to agriculture; land tenure; land values; the law of proportions; price-making processes; money; banking; rural credit; cooperation; marketing; transportation; taxation; rent; interest; wages; and profits.

Elective in Agriculture; sophomore year; second term; 3 credits; 3 recitations. Text: Nourse, *Agricultural Economics*. *N. H. Comish*

ES 364. The Economic Organization of Agriculture. Economic problems discussed from the standpoint of efficiency to be attained through closer organization; old and new agricultural methods of production, purchasing, transportation, and marketing carefully investigated and compared for the purpose of eliminating waste and duplication; organization of farmers for purposes of production, purchasing, marketing, and insurance taken up in detail; the general farmers' movement resulting in the granges and farmers' unions.

Open to all students who have had ES 362 or its equivalent. Elective; junior or senior year; second term; 3 credits; 3 recitations.

N. H. Comish

ES 365. National Vitality. The general field of national vitality; its importance; the conditions underlying it, and the means of maintaining such conditions; economic and social waste due to disease, alcohol, and vice treated in a series of lectures by experts from different departments of the College; lectures by outside specialists upon particular phases of the subject. Besides taking notes on the lectures, each student is required to make an abstract of not less than three hundred pages of assigned readings. Note: This course will not be given unless at least fifteen students register for it.

Elective; third term; 2 credits; 2 recitations. *H. Macpherson*

ES 366. The Literature and Exposition of Rural Life. A critical study of the general field of literature bearing upon rural life; typical interpretations of rural life from the best poetry and prose; the rural press studied with a view to estimating its sociological and economic influence; themes upon current economic and sociological topics and the subject-matter discussed in the class room to familiarize the student with the problems involved in the rural life movement.

Elective; junior or senior year; second term; 4 credits; 4 recitations. *H. Macpherson*

ES 367. Rural Finance. Various phases of farm finance, including, among other topics, the following: principles of money, banking,

and credit; rural credit laws; registration of land titles; rental and transfer contracts; land settlement and colonization policies; types of rural insurance; and the taxation of rural properties.

Open to those who have had ES 362 or equivalent. Elective; junior or senior year; first term; 3 credits; 3 recitations.

N. H. Comish

ES 391. Introduction to Economics. Abbreviated course (see ES 203).

Elective for all students except Commerce; year as may be specified in the department schedule; first or second term; 3 credits; 3 recitations. Text: Ely, Outlines of Economics.

N. H. Comish

ES 393. Introduction to Sociology. Abbreviated course (see ES 305).

Elective for all students except Commerce; year as may be specified in the department schedule; any term; 3 credits; 3 recitations.

H. Macpherson

ES 396. Introduction to Labor Problems. This course is based upon ES 301, but is abbreviated and adapted to meet the needs of technical students who have had ES 391, or equivalent.

Prerequisite: ES 391, or its equivalent. Elective for all students except Commerce; junior or senior year; third term; 3 credits; 3 recitations.

H. Macpherson

ES 401. Public Finance. Public expenditures, local, state, and national; brief history of reforms calculated to secure efficiency in these expenditures; forms of taxes, customs, and fees whereby revenues are raised; present systems of land taxation studied in the light of proposed reforms; special attention to war finance; bonds versus taxes in public finance; management of national and local debts. Assigned readings.

Required in Commerce; senior year; first term; 4 credits; 4 recitations. Text: Plenn, Introduction to Public Finance.

ES 402. Markets and Marketing. A critical study of the marketing of staples, semi-staples, and perishable farm products, including the geographical location of producing areas, marketing routes from the producer to the consumer, types of middlemen, direct marketing, marketing costs, standardization, factors influencing prices, and a general description of our whole marketing system as it exists today.

Elective; open to graduate students and seniors upon consultation with the head of the department; second term; 4 credits; 4 recitations.

N. H. Comish

ES 403. Transportation. Relation of transportation systems to industrial and commercial progress; a brief historical review of the development of systems of transportation; organization and financing of different systems; effects of competition in the railroad business; freight classification and the making of rates and fares; the necessity of government control and attempts at regulation by state and Federal governments; government ownership in the light of European experience.

Elective; senior year; third term; 4 credits; 4 recitations. Text: Ripley, Rates and Regulation. *W. H. Dreesen*

ES 413. Applied Sociology. Application of the principles of sociology to the promotion of social welfare; ethical gains through legislation and through voluntary associated and individual effort for the control of housing, relief of poverty, the suppression of vice, the control of juvenile delinquents, prison reforms, cooperation among religious institutions, elimination of corruption from politics, care and elimination of mental and physical defectives; lectures, supplementary readings, and problem investigation.

Open to students who have had either ES 405 or ES 464. Elective; third term; 3 credits; 3 recitations. *H. Macpherson*

ES 464. Rural Sociology. Special problems of the evolution of rural institutions, the rural community, the rural family, the rural school, the rural church, rural societies and associations; rural systems of transportation and communication; the dependence of national welfare upon the rural community.

Elective; junior or senior year; third term; 4 credits; 4 recitations. *H. Macpherson*

ES 603. Markets and Marketing. Continuation of ES 402. An intensive study of the products entering domestic and foreign trade and the methods of marketing them. Among other topics taken up are the following: development of marketing systems; speculation, organized and unorganized; local, state, and national commercial programs and policies; commercial clubs, boards of trade, chambers of commerce; foreign trade relations; transportation routes; the consular service; commercial treaties; tariffs; bounties; and foreign exchange.

Elective to graduate and senior students upon consultation with the head of the department; third term, 4 credits; 4 recitations.

N. H. Comish

VOCATIONAL COURSES

ES 11. Business and Social Organization. Discussion of the principles of better business and better living that should accompany the general improvement in farm methods which it is the purpose of this College to promote; general application of the economic laws of consumption, distribution, and production to the business side of farming; social and economic results of agricultural organization; text-book, lectures, and assigned readings.

Required in Agriculture Vocational Curriculum; first year; second term; 4 credits; 4 recitations. *N. H. Comish*

ES 21. Elementary Commercial Geography. Especially adapted for Vocational students. A general survey of the fundamental conditions affecting industrial and commercial development, followed by a study of the natural resources, industries, products, and commerce of the United States and each of the principal countries of the world. Emphasis is laid upon the reasons for the organization of industry. Materials from the Commercial Museum are used.

Required in Commerce Vocational Curriculum (first year); second term; 3 credits; 3 recitations. Text: Brigham, Commercial Geography. *W. H. Dreesen*

ES 22. Elementary Industrial History. A general, comprehensive review of the most important phases of the economic development of the United States; historical study of such topics as tariff, internal improvements, slavery, banking, industrial development, commerce and shipping, immigration and other similar topics; present-day problems, as presented in the press.

Required in Commerce Vocational Curriculum (second year), and in Mechanic Arts Vocational Curriculum; first term; 3 credits; 3 recitations. Text: Moore, Industrial History of the American People. *W. H. Dreesen*

ES 23. Elementary Industrial Problems. Especially designed for Vocational students in Industrial Arts and Commerce. It aims to give them some insight into the economic problems with which they have to deal. A very condensed outline of the principal economic concepts is followed by the discussion of industrial organization, labor problems, transportation, marketing, taxation, etc.

Required in Mechanic Arts Vocational Curriculum and in Commerce Vocational Curriculum (second year); second term; 4 credits; 4 recitations. Text: Ely and Wicker, Elementary Principles of Economics. *W. H. Dreesen*

OFFICE TRAINING AND STENOGRAPHY

The courses offered by this department are for four classes of students: (a) those desiring a thorough training as stenographers and typists; (b) those desiring to go further into the field of court reporting and secretarial training; (c) those desiring to enter the teaching profession; and (d) those commercial teachers desiring advanced training.

The ground covered by the work of this department is as follows: Stenography and Typewriting, two years; Convention and Court Reporting, one year; Secretarial Training, one year; and Methods of Teaching Commerce, one year.

Equipment. The Office Training department is equipped with the latest appliances and fixtures, including the standard types of typewriters, duplicators, mimeographs, dictaphones, mimescope, and filing cabinets. Each student is given access to equipment upon payment of a fee required for the course in which he is registered. All equipment and apparatus are kept in constant repair, and students are taught how to keep the apparatus they use in proper order.

COURSES

OT 101. *Elementary Stenography. Theory of manual, Gregg Shorthand, first eight lessons covered thoroughly. Shorthand penmanship given especial attention. Typing course OT 111 must be taken concurrently with this course unless student has had an equivalent course.

Required in Commerce (freshman year) and in Commerce Vocational Curriculum (first year); elective to others; first term; 3 credits; 4 recitations. Texts: Gregg Shorthand Manual and Gregg Writer. *Minnie Koopman*

OT 102. *Elementary Stenography. A continuation of OT 101. Manual completed through the fifteenth lesson. Typing course OT 112 must be taken concurrently with this course unless student has had an equivalent course.

Required in Commerce (freshman year) and in Commerce Vocational Curriculum (first year); elective to others; second term; 3 credits; 4 recitations. Texts: Gregg Shorthand Manual. Gregg Writer. Gregg Speed Studies. *Minnie Koopman*

OT 103. *Elementary Stenography. A continuation of OT 102. Theory of manual completed. Thorough review of principles. Special attention given to phrase writing. Beginning dictation. Typing

* Less than 9 credits in Stenography or 6 credits in Typing will not be counted toward the B.S. degree in Commerce. Students in other schools may offer less as elective work.

course OT 113 must be taken concurrently with this course unless student has had an equivalent course.

Required in Commerce (freshman year) and in Commerce Vocational Curriculum (first year); elective to others; first or third term; 3 credits; 4 recitations. Texts: Gregg Shorthand Manual. Gregg Writer. Gregg Speed Studies. *Lillian Burns*

OT 111. ***Elementary Typing.** Rational Touch Typing. Theory and practice of Touch Typing, covering mastery of alphabet and numerals. Finger gymnastics, rhythm drills, dictation exercises. Required for OT 101 students.

Required in Commerce; elective to others; freshman year; any term; 2 credits; 5 one-hour laboratory periods; 1 hour home assignment. Fee \$2.00. Text: Rational Typewriting. *Minnie Koopman*

OT 112. ***Elementary Typing.** Continuation of OT 111. Drill. Writing paragraphs, continuous matter. Punctuation and mechanical arrangement of business correspondence. Required of OT 102 students.

Required in Commerce; elective to others; freshman year; any term; 2 credits; 5 one-hour laboratory periods; 1 hour home assignment. Fee \$2.00. Text: Rational Typewriting. *Minnie Koopman*

OT 113. ***Elementary Typing.** Continuation of OT 112. Legal forms, tabulating, centering, manifolding, and speed practice. Speed certificates granted. Required of OT 103 students.

Required in Commerce; elective to others; freshman year; any term; 2 credits; 5 one-hour laboratory periods; 1 hour home assignment. Fee \$2.00. Text: Rational Typewriting. *Bertha A. Whillock*

OT 121. ***Elementary Stenography. Condensed Course.** Designed for those who wish to prepare rapidly for civil service or teaching positions. First fourteen lessons in the Manual covered thoroughly. Course OT 131 must be taken concurrently with this course unless student has had the equivalent.

Elective in all curricula; freshman year; first or second term; 6 credits; 7 recitations. Texts: Gregg Shorthand Manual. Gregg Writer. *Etha M. Maginnis*

OT 122. ***Intermediate Stenography. Condensed Course.** Continuation of OT 121. Theory of Manual completed. Drill on phrase writing. Beginning dictation. Course OT 132 must be taken concurrently with this course unless student has had equivalent.

Elective in all curricula; freshman year; second or third term; 6 credits; 8 recitations. Texts: Gregg Shorthand Manual. Gregg Writer. Gregg Speed Studies. *Etha M. Maginnis*

* Less than 9 credits in Stenography or 6 credits in Typing will not be counted toward the B.S. degree in Commerce. Students in other schools may offer less as elective work.

OT 131. *Elementary Typing. Condensed Course. Rational Touch Typing. Same as OT 111 and 112. Designed for students taking course OT 121 and those desiring to prepare for civil service examination in typing.

Elective in all curricula; first or second term; 4 credits; 5 two-hour laboratory periods. Fee \$3.00. Text: Rational Typewriting.
Etha M. Maginnis

OT 132. *Intermediate Typing. Condensed Course. Continuation of OT 131. Legal forms, tabulating, centering, manifolding, and speed practice. Transcription of matter which has been taken in dictation. Designed for students taking OT 122 and those desiring to prepare for civil service examination in typing.

Elective in all curricula except regular Commerce; freshman year; second or third term; 4 credits; 5 two-hour laboratory periods. Fee \$3.00. Text: Rational Typewriting.
Bertha A. Whillock

OT 133. *Advanced Stenography and Typing. Condensed Course. A continuation of OT 121 and 131. Advanced dictation, drill on matter qualifying one to pass civil service examination.

Elective in all curricula except regular Commerce; freshman year; third term; 6 credits; 6 recitations; 6 hours home work; 6 one-hour laboratory periods. Fee \$3.00. Text: Eldridge Dictation Exercises.
Lillian Burns

OT 201. *Advanced Stenography and Typing. Advanced principles and phrases, Gregg or Pitman Shorthand. Dictation and transcripts covering vocabularies of representative businesses such as law, banking, insurance, publishing, railway, and manufacturing. Advanced typing and effective arrangement of business correspondence.

Prerequisites: OT 103, 113, or equivalent. Required in Commerce (sophomore year) and in Commerce Vocational Curriculum (second year); first or second term; 5 credits; 5 recitations; 5 hours home work; 5 one-hour laboratory periods. Fee \$2.00. Texts: Gregg Speed Studies. Gregg Writer. Eldridge Dictation Exercises (adapted to Gregg or Pitman).
Bertha A. Whillock

OT 202. *Advanced Stenography and Typing. Advanced dictation, legal forms, newspaper and magazine articles. Court and convention reporting introduced. A one-hundred-twenty-word shorthand and a sixty-word typing certificate granted. Sections for Gregg and Pitman students.

Prerequisite: OT 201 or equivalent. Required in Commerce (sophomore year) and in Commerce Vocational Curriculum (second

* Less than 9 credits in Stenography or 6 credits in Typing will not be counted toward the B.S. degree in Commerce. Students in other schools may offer less as elective work.

year); second or third term; 5 credits; 5 recitations; 5 hours home work; 5 laboratory periods. Fee \$2.00. Texts: Eldridge Dictation Exercises. Expert Speed Course. *Bertha A. Whillock*

OT 203. Office Training for Stenographers. Office methods and appliances; filing; office routine; remittances and banking; shipping and accounting forms; business ethics; office efficiency problems; correct fingering of adding and calculating machines; expert typing and stencils; booklets, title pages, manuscripts, advertisements and reports prepared with the aid of the mimeograph, mimeoscope, and multigraph; dictaphone dictation and transcripts.

Prerequisite: OT 202 or equivalent. Required in Commerce (sophomore year) and in Commerce Vocational Curriculum (second year); any term; 5 credits; 5 two-hour periods (lectures with home assignment, and laboratory). Fee \$2.00. *Etha M. Maginnis*

OT 243. Civil Service Examination for Stenographers. Lectures and drill in all subjects required in examinations for stenographic, typing, clerical, or civil service appointments.

Prerequisite: OT 133 or OT 203. Elective; sophomore year; first or third term; 3 credits; 3 lectures; 3 one-hour laboratory periods. Text: McDaniels Civil Service Course. *H. T. Vance*

OT 251. Office Methods and Appliances. Designed for Commerce students not taking stenography. Study and use of modern office appliances such as mimeoscope, mimeograph, multigraph, addressing machines, dictaphones, calculating and bookkeeping devices. Filing and office routing. Continuation of typing course OT 113.

Required in Commerce (sophomore year) and in Commerce Vocational Curriculum (second year); first term; 2 credits; 5 one-hour lecture and laboratory periods; 1 hour home assignment. Fee \$2.00. *Etha M. Maginnis*

OT 252. Office Management. Designed for Commerce students not taking stenography. Practice and principles of scientific office management covering organization, arrangement, and operation, with special consideration of the employment, training, and payment of office workers. Study of office efficiency problems and business ethics.

Prerequisite: OT 251. Required in Commerce (sophomore year) and in Commerce Vocational Curriculum (second year); second term; 2 credits; 2 lectures. Text: Galloway, Office Management. *H. T. Vance*

OT 253. Office Management. Continuation of OT 252. Required in Commerce (sophomore year) and in Commerce Vocational Curriculum (second year); third term; 2 credits; 2 lectures.

H. T. Vance

OT 261. Expert Typing. Designed to give expert finger training. Emphasis on artistic typing and rapid tabulating, billing, and manifold, with absolute accuracy. Proficiency certificates for speed and accuracy will be granted.

Prerequisite: OT 113. Elective, primarily for other than Commerce students; sophomore year; first or third term; 2 credits; 5 laboratory hours; 1 hour home assignment. Fee \$2.00. Text: Rational Typewriting.

Etha M. Maginnis

OT 301. Commercial Secretaries. Private secretary defined; learning the position; managing callers; handling correspondence; outlines and reports; sources of information; editing and proof reading; appointments; diaries and accounts; ethics; systematizing the office.

Prerequisite: OT 203. Elective in Commerce; junior year; any term; 3 credits; 3 lectures. Text: Kilduff, Private Secretary.

H. T. Vance

OT 302. Secretarial Practice. Continuation of OT 301.

Elective in Commerce; junior year; any term; 6 hours a week actual practice in College administrative offices; 2 credits.

H. T. Vance

OT 401. Reporters' Course. Designed for those having completed OT 203 and desiring to specialize in court or convention reporting.

Elective; junior or senior year; first term; 3 credits; 2 recitations; 3 one-hour laboratory periods. Fee \$1.00.

Lillian Burns

OT 402. Reporters' Course. A continuation of OT 401.

Elective; junior or senior year; second term; 3 credits; 2 recitations; 3 one-hour laboratory periods. Fee \$1.00.

Lillian Burns

OT 403. Reporters' Course. A continuation of OT 402. Verbatim reporting of addresses, lectures, and talks given on the campus. Accurate transcripts to be made.

Elective; junior or senior year; third term; 3 credits; 2 recitations; 3 one-hour laboratory periods. Fee \$1.00.

Lillian Burns

POLITICAL SCIENCE

In the courses in Political Science proper the department seeks to instruct in the basic general principles of all government, the construction and operation of modern governments, with particular attention to that of the United States, and the rules and principles which regulate the relations of governments to each other. The courses are planned with the purpose of equipping students for an intelligent participation in governmental affairs. The work culminates in the courses in Advanced American Government and Practical Legislation, designed to instruct in the fundamentals of law-making. The work assumes that, as citizens, our students will take a dynamic part in the various activities of government, including law-making.

In the Business Law courses the department endeavors to train students for practical business affairs, particularly to give the legal information necessary to prevent the common business errors. Special attention is given to industrial and rural problems. In order to acquaint the student with the rudiments of court procedure, a practical case is tried by the class, the students performing all the parts.

For outline of courses in Political Science in the School of Commerce, consult pages 144, 145.

COLLEGIATE COURSES

PS 163. Business and Rural Law. A short course in the laws of business, covering briefly much the same field as PS 201 and PS 202, but applied particularly to the special needs of students. Work for Pharmacy students gives emphasis to strictly business law. Work for Agriculture students stresses farm law. Recitations and discussions.

Required in Pharmacy, Farm Management, Animal Husbandry, and Landscape Gardening; elective to others except Commerce; third term; 3 credits; 3 recitations. Text: Huffcut, *Elements of Business Law*.

U. G. Dubach, F. A. Magruder

PS 201. Advanced Business Law. (a) Contracts in General. Requisites, formation, interpretation, and remedies for breach of contracts. (b) Sales of Personal Property. Passage of title, warranties and remedies. Note: Credit will not be given for PS 201 without PS 202 except on special permission from the department.

Required in Commerce and Forestry; elective to others; sophomore year; first or second term; 4 credits; 4 recitations. Texts: Spencer, *Manual of Commercial Law*. Bays, *Cases on Commercial Law*.

U. G. Dubach, F. A. Magruder

PS 202. Advanced Business Law. Continuation of PS 201. (c) Negotiable Instruments. Requisites of contract assignment and ne-

gotiation. Liability of maker, drawer, acceptor, and indorser. Proceedings to protect rights of parties. (d) Agency. Appointment powers and responsibilities of agents. (e) Partnership and Corporation. Comparison of methods of formation, dissolution, and powers and liabilities of members. (f) Property Classes. Title, abstracts, mortgages, and leases. The case method is used throughout the entire course. Lectures, reports, and discussions.

Required in Commerce and Forestry; elective to others, sophomore year; second or third term; 4 credits; 4 recitations. Texts: Spencer, *Manual of Commercial Law*. Bays, *Cases on Commercial Law*.
U. G. Dubach, F. A. Magruder

PS 301. National Government. Consideration of the organization, functions, and present-day problems of the American Federal Government.

Required in Commerce and Mines; elective in other curricula; any term; 3 credits; 3 recitations. Text: Munro, *Government of the United States*.
U. G. Dubach, F. A. Magruder

PS 302. State and Local Government. Consideration of the organization, functions, and present-day problems of state, county, and township government in the United States. The government of Oregon receives special attention.

Required in Commerce and Mines; elective to others; junior or senior year; second term; 3 credits; 3 recitations. Text: Munro, *Government of the United States*.
U. G. Dubach, F. A. Magruder

PS 303. Municipal Government. Consideration of the organization, functions, and present-day problems of city and town government. The cities of the Northwest receive special attention.

Required in Commerce; elective to others; junior or senior year; third term; 3 credits; 3 recitations. *U. G. Dubach, F. A. Magruder*

PS 401. Comparative Governments. A critical study of the governments of the principal countries of the world, with emphasis on modern movements and features of government that are problems in the United States at present. Lectures, reports, and discussions.

Required in Commerce; elective to others; senior year; first term; 4 credits; 4 recitations. *F. A. Magruder*

PS 402. International Relations. America as a World Power and her relation to contemporary political, social, and economic world events; races, languages, religions, and types of government in Europe and the Near East; Great Britain and her imperial problems; fundamental principles of international law and proposed plans for preserving international peace; partition of Africa; the Chinese Republic; Japanese expansion; Oriental problem on the Pacific

Coast; our relations with Canada and with Mexico; the Caribbeans as an American problem; our interest and opportunities in South America; America's ideals. Lectures, discussions, and tests.

Elective; senior year; second or third term; 4 credits; 4 recitations. *F. A. Magruder*

PS 411. Advanced American Government. Supplementary to PS 301, 302, and 303, giving chief attention to the interpretation of Federal and state constitutions, and the relation of legislation to the constitutions. Court reports are used liberally to show the interpretation of the rights of the people guaranteed in the constitutions and of the powers granted to the government by these instruments.

Prerequisite: PS 301. Elective; junior or senior year; first term; 4 credits; 4 recitations. Text: Hall, Constitutional Law.

U. G. Dubach

PS 412. Practical Legislation. Instruction in practical bill drafting; attention given to correct form, and expression of desired content of bills; emphasis on the necessity of preparing laws with reference to prior legislation and court decisions; emphasis on rural and industrial legislation.

Prerequisite: PS 411. Elective; junior or senior year; second term; 4 credits; 4 recitations. Text: Jones, Statute Law Making in the United States.

U. G. Dubach

PS 601. Business Law. Class work same as PS 201 with special research work required in addition.

For graduate students other than Commerce; first term; 4 credits; 4 recitations.

U. G. Dubach, F. A. Magruder

PS 602. Business Law. Class work same as PS 302; special research work required in addition.

For graduate students other than Commerce; second term; 4 credits; 4 recitations.

U. G. Dubach, F. A. Magruder

VOCATIONAL COURSES

PS 13. American Civil Government. Consideration of national, state, county, and city government in the United States.

Required in Commerce Vocational Curriculum; first year; third term; 3 credits; 4 recitations. Text: Magruder, American Government.

F. A. Magruder

PS 23. Business Law. General principles of contracts, sales, negotiable instruments, bailments, agency, partnership, corporations, and property.

Required in Commerce Vocational Curriculum (second year) and in Mechanic Arts Vocational Curriculum; third term; 3 credits; 3 recitations. Text: Huffcut, Elements of Business Law.

U. G. Dubach

SCHOOL OF ENGINEERING AND MECHANIC ARTS

WILLIAM JASPER KERR, D.Sc., President of the College.

GRANT ADELBERT COVELL, M.E., Dean of the School of Engineering and Mechanic Arts; Professor of Mechanical Engineering.

CHARLOTTE HARRIS JACKMAN, Secretary to the Dean.

GORDON VERNON SKELTON, C.E., Professor of Highway Engineering.

HENRY CLAY BRANDON, A.M., Professor of Industrial Arts; Director of Shops.

RICHARD HAROLD DEARBORN, A.B., M.E., Professor of Electrical Engineering.

THOMAS ANDERSON HENDRICKS TEETER, B.S., Professor of Hydraulics and Irrigation Engineering.

SAMUEL HERMAN GRAF, M.S., Professor of Mechanics and Materials.

OTTO BERGER GOLDMAN, B.S., Professor of Heat Engineering.

STUART HOBBS SIMS, B.S., Professor of Civil Engineering.

MARK CLYDE PHILLIPS, B.M.E., Associate Professor of Mechanical Engineering; Superintendent of Heating.

LAWRENCE FISHER WOOSTER, B.S.A., Assistant Professor of Electrical Engineering; Superintendent of Light and Power.

SAMUEL MICHAEL PATRICK DOLAN, C.E., Assistant Professor of Civil Engineering.

CHARLES EDWIN THOMAS, M.E., Assistant Professor of Mechanics and Materials.

FRED ORVILLE McMILLAN, M.S., Assistant Professor of Electrical Engineering.

WILLIAM MCCAULLY PORTER, Instructor in Forging.

AMBROSE ELLIOTT RIDENOUR, B.S., Instructor in Foundry Practice.

CHARLES GEORGE WILTSHIRE, Instructor in Plumbing and Steam Fitting.

JOHN HARRISON BELKNAP, B.S., Instructor in Electrical Engineering.

DEXTER RALPH SMITH, B.S., Instructor in Civil Engineering.

MARTIN LOUIS GRANNING, Instructor in Auto Mechanics.

BENJAMIN HODGE NICHOLS, B.S., Instructor in Mechanical Engineering.

FRANCIS PARKER MYERS, B.S., Instructor in Automotive Laboratory.
GLENN HARTMAN HILL, Instructor in Machine Shop.
DONALD KENNETH MEREEN, Instructor in Patternmaking.
MORRIS WENK, A.B., E.E., Instructor in Mechanical Drawing.
RAY BOALS, B.S., Instructor in Mechanical Engineering.
IVAN FREDERIC WATERMAN, C.E., Instructor in Civil Engineering.
EDWARD BARKER HATCH, Instructor in Auto Mechanics.
HARRY PALMER CADY, B.S., Instructor in Electrical Engineering.
BURDETTE GLENN, B.S., Instructor in Civil Engineering.
JOHN DUBUIS, A.B., C.E., Instructor in Irrigation and Mechanical Engineering.
LEM RAYMOND DEPPERMAN, Instructor in Mechanical Engineering.

The School of Engineering offers curricula leading to advanced professional degrees, the degree of Bachelor of Science, and a vocational certificate in Mechanic Arts.

Advanced Degrees. The professional degree of Civil Engineer, Electrical Engineer, or Mechanical Engineer, is offered to graduates of the College, or other colleges of equal rank, who have attained the degree of Bachelor of Science in the corresponding engineering curriculum, and met the College requirements for graduate study. See pages 67, 68. These requirements specify one full year of resident work amounting to 48 college credits, including an acceptable thesis.

Baccalaureate Degrees. Four-year curricula leading to the degree of Bachelor of Science are offered in the School of Engineering as follows:

A curriculum in Civil Engineering, with senior options in Civil Engineering, Highway Engineering, Irrigation Engineering, and Structural Engineering.

A curriculum in Electrical Engineering.

A curriculum in Industrial Arts.

A curriculum in Mechanical Engineering.

Requirements for Graduation. In each of the four baccalaureate degree curricula offered in the School of Engineering, 201 college credits are required, of which 189 are to be academic credits, 9 are to be credits in military drill, and 3 are to be credits in physical education.

Vocational Curriculum. A one-year vocational curriculum in Mechanic Arts is offered. The purpose of this curriculum is to assist those who expect to make their way in the world by their manual skill in some line of industrial activity, and who, though unable

to take the degree curriculum of the College, desire vocational training in special lines and at the same time the broadening influence of education in English, mathematics, and elementary science.

The shops are equipped with the latest approved machinery suited to carry on these practical courses.

The work is open to students over 16 years of age who have completed the eighth grade course of study or equivalent. Applicants more than 21 years of age who have not completed the eighth grade are admitted upon proof that they are able to carry the work that they may desire to take.

A student who has completed one year of work as outlined on page 184 is entitled to a certificate. Eighteen credits must be in one of the following subjects: Woodworking (Patternmaking, Carpentry, or Cabinetmaking), Machine Shop Practice, Blacksmithing, Foundry Practice, Plumbing, Auto Mechanics.

Graduate Short Course in Highway Engineering. During the second term, 1920-21, this Short Course in Highway Engineering is given by the department of Highway Engineering in cooperation with the departments of Civil and Irrigation Engineering and Mechanics and Materials, and is intended for graduate engineers who wish to specialize in some line of highway work, or for others properly prepared. The purpose of the Short Course is to review the principles and current practice of Highway Engineering.

The various courses are complete in themselves and any one course may be taken without the others if the applicant's preparation is suitable for that course.

Instruction will be given by means of lectures, assigned reading, and laboratory practice. Special lectures by non-resident engineers will be provided where possible. No classes will be formed unless a sufficient number of students apply. During the year 1921 classes will not be arranged for more than 16 credit hours a week.

Those intending to take the Short Course should write Professor Skelton in advance.

The following courses are offered:

Road Design. Two times a week.

Construction of Roads. Three times a week.

Highway Bridges. Three times a week.

Highway Laboratory. Three laboratory periods a week.

Street Design and Construction. Three times a week.

Reinforced Concrete Highway Structures. Three times a week.

Contracts and Specifications. Three times a week.

The Hydraulics of Highway Drainage and Construction. One laboratory period a week.

DEGREE CURRICULUM IN CIVIL ENGINEERING**Freshman Year**

| | 1st | Term 2d | 3d |
|---|---------------|---------------|---------------|
| Engineering Drawing, CE 111, 112, 113 | 3 | 3 | 3 |
| Plane Surveying, CE 121, 122, 123 | 5 | 4 | 5 |
| Engineering Physics, Ph 111, 112, 113 | 3 | 3 | 3 |
| Plane Trigonometry, Elementary Analysis, Mth 111, 131, 132 | 4 | 4 | 4 |
| Library Practice, Lib 100 | | 1 | |
| Gymnasium, PE 111, 112, 113 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 1 | 1 | 1 |

Sophomore Year

| | 16½ | 16½ | 16½ |
|--|---------------|---------------|---------------|
| Differential, Integral Calculus, Mth 251, 252, 253 | 4 | 4 | 4 |
| General Chemistry, Ch 101, 102, 103 | 3 | 3 | 3 |
| Engineering Location, Earthworks, CE 221 | 5 | | |
| General Geology, G 202, 203 | | 2 | 2 |
| English Composition, Eng 101, 102, 103 | 3 | 3 | 3 |
| Technical Electricity, EE 251 | | 3 | |
| Electrical Machinery, EE 252 | | | 3 |
| Gymnasium, PE 211, 212, 213 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 1 | 1 | 1 |

Junior Year

| | 16½ | 16½ | 16½ |
|---|-----|-----|-----|
| * Hydrology, IE 232 | 3 | | |
| * Hydraulics, IE 316 | | 3 | |
| * Business Management, BA 332 | | | 3 |
| Mechanics, MM 351, 352 | 3 | 3 | |
| Strength of Materials, MM 353 | | | 3 |
| Roads and Pavements, HE 311, 312 | 2 | 3 | |
| Sanitary Engineering, IE 323 | 3 | | |
| Masonry and Foundations, CE 341 | | 3 | |
| Materials of Construction, MM 312 | 4 | | |
| Steam Machinery, ME 228 | | 3 | |
| Structural Analysis, CE 353 | | | 3 |
| Reinforced Concrete, CE 342 | | | 3 |
| Hydraulic Laboratory, IE 332 | | | 3 |
| Military Science and Tactics | 2 | 2 | 2 |
| | 17 | 17 | 17 |

* Juniors in 1920-21 will take English 101, 102, 103 instead of BA 332, IE 212, and IE 232.

During the senior year the student may pursue any one of the following options: Civil Engineering, Highway Engineering, Irrigation Engineering, Structural Engineering.

Senior Year

(Civil Engineering Option)

| | 1st | Term 2d | 3d |
|---|-----|------------|----|
| Structural Engineering, CE 451, 452, 453 | 4 | 4 | 4 |
| Economics of Highway Construction, HE 416.... | 3 | | |
| Reinforced Concrete, CE 443 | 2 | | |
| Introduction to Economics, ES 391 | 3 | | |
| Public Health and Sanitation, IE 422..... | | 3 | |
| Industrial Organization and Management, BA 381 | | 3 | |
| Contracts and Specifications, HE 427 | | 3 | |
| Technical Electricity, EE 251 | | 3 | |
| Electrical Machinery, EE 252 | | | 3 |
| Irrigation Engineering or Municipal Engineer- ing and City Planning, IE 414 or HE 438..... | | | 3 |
| National Government, PS 301 or 302 | | | 3 |
| Municipal Water Supply, IE 411 | 4 | | |
| Seminar, CE 481, 482, 483 | 1 | 1 | 1 |
| Technical Journalism or Practical Public Speak- ing, IJ 330 or Eng 251 | | | 3 |
| | — | — | — |
| | 17 | 17 | 17 |

Senior Year

(Highway Engineering Option)

| | | | |
|---|----|----|----|
| Introduction to Economics, ES 391 | 3 | | |
| Industrial Organization and Management, BA 381 | | 3 | |
| National Government, State and Local Govern- ment, PS 301 or 302 | | | 3 |
| Structural Engineering, CE 451, 452, 453 | 4 | 4 | 4 |
| Contracts and Specifications, HE 427 | | 3 | |
| Highway Engineering, HE 411, 412, 413 | 4 | 3 | 4 |
| Highway Materials Laboratory, MM 426 | | 3 | |
| Economics of Highway Construction, HE 416..... | 3 | | |
| Reinforced Concrete, CE 443 | 2 | | |
| Seminar, CE 481, 482, 483 | 1 | 1 | 1 |
| Engineering electives | | | 5 |
| | — | — | — |
| | 17 | 17 | 17 |

Senior Year

| (Irrigation Engineering Option) | | Term | |
|--|-----|------|----|
| | 1st | 2d | 3d |
| Structural Engineering, CE 451, 452 | 4 | 4 | |
| Introduction to Economics, ES 391 | 3 | | |
| Industrial Organization and Management, BA 381 | | 3 | |
| National Government, State and Local Government, PS 301 or 302 | | | 3 |
| Contracts and Specifications, HE 427 | | 3 | |
| Irrigation Engineering, IE 414 | 3 | | |
| Municipal Water Supply, IE 412 | | | 3 |
| Soil Surveying, Sls 427 | | | 3 |
| Irrigation Farming Elective, Sls 312 | | 2 | |
| Hydraulic Installations, IE 314 | | | 3 |
| Soil Physics Elective, Sls 422 | 3 | | |
| Drainage Engineering, IE 416 | 3 | | |
| Irrigation Structures, IE 435 | | 3 | |
| Water Power Engineering, IE 433 | | | 3 |
| Seminar, CE 481, 482, 483 | 1 | 1 | 1 |
| Electives | | 1 | 1 |

Senior Year

| | 17 | 17 | 17 |
|--|----|----|----|
| (Structural Engineering Option) | | | |
| Structural Engineering, CE 451, 452, 453 | 4 | 4 | 4 |
| Advanced Structural Analysis, CE 454 | 3 | | |
| Reinforced Concrete and Foundation Design, CE 444 | 2 | | |
| Introduction to Economics, ES 391 | 3 | | |
| Elastic Deformations and Secondary Stresses, CE 455 | | 3 | |
| Industrial Organization and Management, BA 381 | | 3 | |
| Contracts and Specifications, HE 427 | | 3 | |
| Technical Electricity, EE 251 | | 3 | |
| Electrical Machinery, EE 252 | | | 3 |
| Structural Laboratory, MM 427 | | | 3 |
| National Government, State and Local Government, PS 301 or 302 | | | 3 |
| Municipal Water Supply, IE 411 | 4 | | |
| Civil Engineering Seminar, CE 481, 482, 483 | 1 | 1 | 1 |
| Technical Journalism or Practical Public Speaking, IJ 330 or Eng 251 | | | 3 |
| | 17 | 17 | 17 |

DEGREE CURRICULUM IN ELECTRICAL ENGINEERING**Freshman Year**

| | 1st | Term 2d | 3d |
|---|-----|------------|----|
| Elements of Electricity, EE 101, 102, 103 | 3 | 3 | 3 |
| Plane Trigonometry, Elementary Analysis, Mth 111, 131, 132 | 4 | 4 | 4 |
| Engineering Physics, Ph 111, 112, 113 | 3 | 3 | 3 |
| Library Practice, Lib 100 | 1 | | |
| Engineering Survey, ME 101 | | 1 | |
| Mechanical Drawing, ME 111, 112 | 2 | 2 | |
| Descriptive Geometry, ME 113 | | | 3 |
| Woodwork, Blacksmithing, Machine Shop, IA 121, 152, 262 | 2 | 2 | 2 |
| Gymnasium, PE 111, 112, 113 | 1½ | 1½ | 1½ |
| Military Science and Tactics | 1 | 1 | 1 |

Sophomore Year

| | 16½ | 16½ | 16½ |
|---|-----|-----|-----|
| Introduction to Electrical Engineering, EE 201, 202, 203 | 3 | 3 | 3 |
| Differential, Integral Calculus, Mth 251, 252, 253 | 4 | 4 | 4 |
| General Chemistry, Ch 101, 102, 103 | 3 | 3 | 3 |
| Gas Engines, ME 224 | 3 | | |
| Steam Machinery, ME 228 | | 3 | |
| Hydraulics, IE 213 | | | 3 |
| Machine Shop, IA 263 | 2 | | |
| Plane Surveying, CE 124, 127 | | 2 | 2 |
| Gymnasium, PE 211, 212, 213 | 1½ | 1½ | 1½ |
| Military Science and Tactics | 1 | 1 | 1 |

Junior Year

| | 16½ | 16½ | 16½ |
|--|-----|-----|-----|
| Electrical Engineering, EE 301, 302, 303 | 4 | 4 | 4 |
| Electrical Laboratory, EE 321, 322, 323 | 2 | 2 | 2 |
| Mechanics, MM 351, 352 | 3 | 3 | |
| Strength of Materials, MM 353 | | | 3 |
| Hydraulic Power Plants, IE 312 | 3 | | |
| Steam Turbines, ME 329 | | 3 | |
| Steam Power Plants, ME 339 | | | 3 |
| English Composition, Eng 101, 102 | 3 | 3 | |
| Practical Public Speaking, Eng 251 | | | 3 |
| Military Science and Tactics | 2 | 2 | 2 |
| | 17 | 17 | 17 |

Senior Year

| | 1st | Term 2d | 3d |
|---|----------|------------|----------|
| Electrical Engineering, EE 401, 402, 403 | 3 | 3 | 3 |
| Electrical Design, EE 411, 412, 413 | 1 | 1 | 1 |
| Electrical Laboratory, EE 421, 422, 423 | 2 | 2 | 2 |
| Electric Lighting, EE 431 | 3 | | |
| Electrical Railways, EE 432 | | 3 | |
| Electrical Signaling, EE 433 | | | 3 |
| Introduction to Economics, ES 391 | 3 | | |
| Industrial Organization and Management, BA 381 | | 3 | |
| National Government, State and Local Govern- ment, PS 301 or 302 | | | 3 |
| Electives | 5 | 5 | 5 |
| | <hr/> 17 | <hr/> 17 | <hr/> 17 |

DEGREE CURRICULUM IN INDUSTRIAL ARTS**Freshman Year**

| | 1st | Term 2d | 3d |
|--|---------------|---------------|---------------|
| Shop Drawing, IA 191, 192, 193 | 2 | 2 | 2 |
| Manual Training, IA 111, 112, 113 | 3 | 3 | 3 |
| General Chemistry, Ch 101, 102, 103 | 3 | 3 | 3 |
| English Composition, Eng 101, 102, 103 | 3 | 3 | 3 |
| Commercial Geography, ES 101 | 4 | | |
| Trigonometry, Mth 111 | | 4 | |
| Gymnasium, PE 111, 112, 113 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 1 | 1 | 1 |
| Approved electives | | | 4 |

Sophomore Year

| | 16 $\frac{1}{2}$ | 16 $\frac{1}{2}$ | 16 $\frac{1}{2}$ |
|--|------------------------|------------------------|------------------------|
| Industrial Arts Drawing, Design, A 211, 221 | 2 | 2 | |
| Paternmaking, IA 213 | 3 | | |
| Engineering Physics, Ph 111, 112, 113 | 3 | 3 | 3 |
| Early American, Recent American Diplomatic History, Hst 121, 122, 421 | 3 | 3 | 3 |
| Foundry Practice, IA 242 | | 3 | |
| Carpentry, IA 222 | | | 3 |
| Gymnasium, PE 111, 112, 113 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 1 | 1 | 1 |
| Approved electives | 4 | 4 | 6 |
| | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ |

Junior Year

| | 1st | Term 2d | 3d |
|---|-----|------------|----|
| House Planning, Ar 331 | 3 | | |
| Forging, IA 351 | 3 | | |
| Elementary Psychology, Psy 301 | 3 | | |
| Elementary Mechanical Drawing, ME 111, 112..... | 2 | 2 | |
| Descriptive Geometry, ME 113 | | | 3 |
| Hammered Metal Work, IA 352 | | 3 | |
| Introduction to Education, Ed 302 | | 3 | |
| Plumbing, IA 373 | | | 3 |
| Wood Turning, IA 333 | | 2 | |
| Educational Psychology, Psy 322 | | | 3 |
| Commercial Woods, F 334 | | | 3 |
| Military Science and Tactics | 2 | 2 | 2 |
| Approved electives | 4 | 5 | 3 |
| | — | — | — |
| | 17 | 17 | 17 |

Senior Year

| | | | |
|---|----|----|----|
| Machine Shop, IA 461, 462 | 3 | 3 | |
| Introduction to Economics, ES 391 | 3 | | |
| Special Methods in Manual Training, IEd 343..... | 4 | | |
| Materials of Engineering, MM 311 | 3 | | |
| Advanced Mechanical Drawing, ME 315 | | 3 | |
| Industrial Organization and Management, BA 381 | | 3 | |
| Vocational Education, Ed 323 | | 2 | |
| Hydraulics, IE 316 | | 3 | |
| Auto Mechanics, IA 182 | | | 3 |
| National Government, State and Local Govern- ment, PS 301 or 302 | | | 3 |
| Practice Teaching in Manual Training, IEd 421.... | | | 5 |
| Theory and Practice of Elementary Manual Arts, IEd 382 | | | 3 |
| Electives | 4 | 3 | 3 |
| | — | — | — |
| | 17 | 17 | 17 |

DEGREE CURRICULUM IN MECHANICAL ENGINEERING**Freshman Year**

| | 1st | Term 2d | 3d |
|---|-----------|------------|-----------|
| Engineering Physics, Ph 111, 112, 113 | 3 | 3 | 3 |
| Plane Trigonometry, Elementry Analysis, Mth 111, 131, 132 | 4 | 4 | 4 |
| Patternmaking, Foundry Practice, Blacksmithing, IA 212, 141, 152 | 2 | 2 | 2 |
| Mechanical Drawing, ME 111, 112 | 2 | 2 | |
| Descriptive Geometry, ME 113 | | | 3 |
| Elements of Heat Engineering, ME 121 | 3 | | |
| Gas Engines, Steam Engines, ME 124 or 122..... | | 3 | 3 |
| Engineering Survey, ME 101 | | 1 | |
| Library Practice, Lib 100 | 1 | | |
| Gymnasium, PEm 111, 112, 113 | 1½ | 1½ | 1½ |
| Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 16½ | <hr/> 16½ | <hr/> 16½ |

Sophomore Year

| | | | |
|--|-----------|-----------|-----------|
| Differential, Integral Calculus, Mth 251, 252, 253 | 4 | 4 | 4 |
| Tool Making and Tempering, Machine Shop, IA 254, 262, 263 | 2 | 2 | 2 |
| General Chemistry, Ch 101, 102, 103 | 3 | 3 | 3 |
| Hydraulics, IE 211 | 3 | | |
| Plane Surveying, CE 126 | 3 | | |
| Heat Engineering, ME 221, 222 | | 3 | 3 |
| Technical Electricity, EE 251 | | 3 | |
| Electrical Machinery, EE 252 | | | 3 |
| Gymnasium, PEm 211, 212, 213 | 1½ | 1½ | 1½ |
| Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 16½ | <hr/> 16½ | <hr/> 16½ |

Junior Year

| | 1st | Term 2d | 3d |
|--|-----|------------|----|
| English Composition, Eng 101, 102, 103 | 3 | 3 | 3 |
| Mechanism, ME 311 | 3 | | |
| Machine Design, ME 312, 313 | | 3 | 3 |
| Materials of Engineering, MM 311 | 3 | | |
| Mechanics, MM 351, 352 | 3 | 3 | |
| Strength of Materials, MM 353 | | | 3 |
| Advanced Hydraulics, IE 313 | 3 | | |
| Financial Engineering, ME 335, 336 | | 3 | 3 |
| Hydraulic Installations, IE 314 | | 3 | |
| Hydraulic Laboratory, IE 341 | | | 3 |
| Military Science and Tactics | 2 | 2 | 2 |
| | — | — | — |
| | 17 | 17 | 17 |

Senior Year

| | | | |
|---|----|----|----|
| Introduction to Economics, ES 391 | 3 | | |
| Industrial Organization and Management, BA 381 | | 3 | |
| National Government, State and Local Govern- ment, PS 301 or 302 | | | 3 |
| Power Plant Design, ME 412, 413, 414 | 2 | 2 | 3 |
| Power Plant Engineering, ME 421, 422 | 2 | 2 | |
| Steam Laboratory, ME 451 | 3 | | |
| Gas Engine Laboratory, ME 461 | | 3 | |
| Wood and Steel Structures, CE 456 | 3 | | |
| Reinforced Concrete and Foundation Design, CE 444 | | 3 | |
| Contracts and Specifications, HE 427 | | 3 | |
| Refrigeration, ME 425 | | | 2 |
| Heating and Ventilation, ME 465 | | | 3 |
| Seminar, ME 481, 482, 483 | 1 | 1 | 1 |
| Electives | 3 | | 5 |
| | — | — | — |
| | 17 | 17 | 17 |

VOCATIONAL CURRICULUM IN MECHANIC ARTS

(See pages 174-175, 210-213)

| | 1st | Term 2d | 3d |
|---|------------------------|------------------------|------------------------|
| Shop work according to trade selected | 6 | 6 | 6 |
| Vocational Drawing, ME 11, 12, 13 | 2 | 2 | 2 |
| Algebra, Mth 21 | 4 | | |
| Plane Geometry, Mth 81 or 82 | | 4 | |
| Shop Arithmetic, Mth 94 | | | 4 |
| English or other approved electives | 3 | 3 | 3 |
| Gymnasium, PE 11, 12, 13 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ |

CIVIL ENGINEERING

The curriculum in Civil Engineering is designed with a three-fold purpose. First, to give the student such thorough fundamental training in the basic sciences (Mathematics, Chemistry, Physics, etc.) as will equip him to cope with the complex technical problems later encountered in his professional work. Second, to render him skillful and expert in those specialized branches of technical detail (surveying, drafting, materials testing, designing, etc.) which constitute the working tools of his profession. Third, to give him breadth and clarity of vision by means of certain groups of cultural or liberal studies, thus fitting him for the large work in the field of commercial and industrial development which is the province of the civil engineer of today. During his senior year the student has the opportunity of selecting from among several specialized lines of Civil Engineering.

Recognizing the value of drawing to the professional engineer, not only as a means of expressing his ideas and of carrying out his plans, but also as a means by which the young graduate may enter some of the most desirable positions, the department lays emphasis upon this subject. Preparation of many plans and working drawings is included in the office work of the higher technical courses.

The work in surveying extends throughout the freshman year, so that the student is prepared to serve in actual surveying work during his first summer vacation. During the sophomore year, additional theory and practice in the use of instruments are obtained in the work of railroad field engineering. In all of these courses, the work of the student is constantly and closely supervised by the instructor. Emphasis is placed upon attention to accuracy and efficiency in general bearing, use of instruments, fundamental problems, and note keeping.

In addition to the required courses of study, lectures relating to engineering are given to freshmen by members of the faculty. The purpose of these lectures is to acquaint the student with the general scope and ideals of the profession.

Equipment. In addition to joint use with the other engineering departments of the testing laboratories described elsewhere, the department has a suite of well-lighted rooms, suitably arranged on the second floor of Apperson Hall. This suite includes offices, recitation and lecture rooms, an instrument room, drafting and designing rooms, and a well-equipped blue-print room with a cylindrical electrical blue-print machine, sun frames, and washing pans.

The drafting and designing rooms are well lighted and fully equipped with thoroughly modern and convenient drawing tables, supplied with individual lockers for instruments and other apparatus. The instrument room is conveniently arranged, having an individual glass-front case for each instrument and its accompanying equipment, which includes marking pins, tape, range-poles, note-book, etc. The instrument equipment includes the following: eighteen transits, four of which are provided with solar attachment; seventeen levels, four plane-tables, one compass and two current meters, all high-class instruments of various standard makes and styles; a sufficient supply of level and stadia rods, range-poles, tapes, chains, plain and prismatic compasses, aneroid barometers, clinometers, planimeters, plumb-bobs, hand levels, etc., together with an excellent assortment of specifications and blue-print plans of engineering structures for illustrative purposes.

COURSES

CE 111. Engineering Drawing. Theoretical instruction and drafting-room practice in the use and care of drawing instruments; principles of orthographic projection; use of standard conventional symbols and practice in free-hand lettering.

Required in Civil, Highway, Irrigation, and Mining Engineering; freshman year; first term; 3 credits; 1 lecture; 8 hours laboratory instruction. Fee \$1.00. Text: French, *Engineering Drawing*.

D. R. Smith

CE 112. Engineering Drawing. A continuation and extension of CE 111, including a series of graded practice plates in orthographic and isometric projection, topographic drawing, sketching, etc.

Prerequisite: CE 111. Required in Civil, Highway, and Irrigation Engineering; freshman year; second or third term; 3 credits; 1 lecture; 8 hours laboratory instruction. Fee \$1.00. Text: French, *Engineering Drawing*.

D. R. Smith

CE 113. Drawing and Descriptive Geometry. Theoretical instruction and drafting-room practice in projection of lines, points, surfaces, and solids. Emphasis is placed on the application of Descriptive Geometry to engineering design.

Prerequisites: CE 112. Required in Civil, Highway, and Irrigation Engineering; freshman year; second or third term; 3 credits; 1 lecture; 8 hours laboratory instruction. Fee \$1.00. Text: Higbee, *Essentials of Descriptive Geometry*.

S. H. Sims, D. R. Smith

CE 121. Plane Surveying. Theory, use, and adjustment of level and transit. Measurement and subdivision of land.

Required in Civil, Highway, and Irrigation Engineering, and Landscape Gardening (freshman year), and in Mining Engineering (sophomore year); first or third term; 5 credits; 2 recitations; 9 hours field work. Fee \$1.00. Texts: Breed and Hosmer, Elementary Surveying. Pence and Ketchum, Surveying Manual.

S. M. Dolan, B. Glenn, I. F. Waterman

CE 122. Plane Surveying. A continuation of CE 121. A study of surveying problems as related to subdivision of public land, farm, and city surveying, special problems and methods, further practice in use of instruments, and notekeeping.

Prerequisite: CE 121. Required in Civil, Highway, and Irrigation Engineering and in Landscape Gardening; freshman year; second term; 4 credits; 2 recitations; 6 hours field work. Fee \$1.00. Texts: Breed and Hosmer, Elementary Surveying. Pence and Ketchum, Surveying Manual.

S. M. Dolan, B. Glenn, I. F. Waterman

CE 123. Higher Plane Surveying. Use of stadia and of plane table; topographical mapping and drawing; determination of meridian by stellar and by solar observation.

Prerequisites: CE 122. Required in Civil, Highway, and Irrigation Engineering; freshman year; third term; 5 credits; 2 recitations; 9 hours field work. Fee \$1.00. Texts: Breed and Hosmer, Higher Surveying. Pence and Ketchum, Surveying Manual.

S. M. Dolan, B. Glenn, I. F. Waterman

CE 124. Plane Surveying. Theory, use, and adjustments of tape, compass, and level.

Required in Electrical Engineering (sophomore year) and in Forestry and Logging Engineering (freshman year); second term; 2 credits; 1 recitation; 3 hours field work. Fee \$1.00. Text: Pence and Ketchum, Surveying Manual.

S. M. Dolan, B. Glenn, I. F. Waterman

CE 125. Plane Surveying. A continuation of CE 124. Theory, use, and adjustment of transit. Measurement and subdivision of land.

Prerequisite: CE 124. Required in Forestry and Logging Engineering; freshman year; third term; 4 credits; 1 recitation; 9 hours field work. Fee \$1.00. Text: Pence and Ketchum, Surveying Manual.

S. M. Dolan, B. Glenn, I. F. Waterman

CE 126. Plane Surveying. Theory, use, and adjustment of level and transit.

Required in Mechanical Engineering; sophomore year; first term; 3 credits; 1 recitation; 6 hours field work. Fee \$1.00. Text: Pence and Ketchum, Surveying Manual.

S. M. Dolan, B. Glenn, I. F. Waterman

CE 127. Plane Surveying. A continuation of CE 124. Theory, use, and adjustment of transit. Special surveying problems.

Prerequisite: CE 124. Required in Electrical Engineering; sophomore year; third term; 2 credits; 1 recitation; 3 hours field work. Fee \$1.00. Text: Pence and Ketchum, Surveying Manual.

S. M. Dolan, B. Glenn, I. F. Waterman

CE 221. Engineering Location, Curves, and Earthwork. The simple, compound, transition, and vertical curve as applied to location of railway and highway transportation lines and ditch and canal systems; methods of earthwork computation; the mass diagram; haul and overhaul, etc.; complete survey of a highway railway or canal line, including a reconnaissance, preliminary survey, location survey, and estimate of earthwork; emphasis upon earthwork calculation and such technical phases of the work as contour location for canals and ditches, etc.; a study of yard and terminal design.

Prerequisite: CE 123. Required in Civil, Highway, and Irrigation Engineering and in Landscape Gardening; sophomore year; first term; 5 credits; 2 recitations; 9 hours field work. Fee \$1.00.

S. M. Dolan

CE 222. Surveying and Topography. Contours and contour mapping, topographical sketching, and execution of a complete topographical survey of an assigned tract including base line measurement, transit, level, stadia, and plane table work; practice in the use of conventional topographic symbols, map making, map reading, and visibility problems.

Prerequisite: CE 125. Required in Forestry and Logging Engineering; sophomore year; first term; 5 credits; 2 recitations; 9 hours field work. Fee \$1.00. Text: Pence and Ketchum, Surveying Manual.

S. M. Dolan

CE 223. Railroad Surveying. This course, designed especially for the logging engineer, takes up the survey of a railroad line through rough or wooded country, including a reconnaissance, preliminary, and location survey. A complete estimate of the yardage and of the cost of the road is made. The course includes study of the simple, compound, vertical, and transition curve.

Prerequisite: CE 222. Required in Forestry and Logging Engineering; sophomore year; second term; 5 credits; 2 recitations; 9 hours field work. Fee \$1.00. *S. M. Dolan*

CE 224. **Precise Surveying and Geology.** Theoretical and field instruction in precise leveling, triangulation, base line measurement, stellar observation and meridian, latitude and time; study of the newer methods employed by the U. S. Coast and Geodetic Survey, etc.

Prerequisite: CE 123. Elective after sophomore year; any term; 3 credits; 1 recitation; 6 hours field and office work. Fee \$1.00. *S. M. Dolan*

CE 341. **Masonry and Foundation.** A study of design and construction of concrete and masonry foundations, retaining walls, piers, dams, and arches. Recitations, lectures, and work in the drafting and computing room.

Required in Civil, Highway, and Irrigation Engineering; junior year; second term; 3 credits; 2 recitations; 3 hours laboratory instruction. Fee \$1.50. Text: Baker, A Treatise on Masonry Construction. *S. H. Sims*

CE 342. **Reinforced Concrete.** A study of the fundamental principles of reinforced concrete as applied to the design of beams, girders, columns, walls, and arches. Design for the beam, girder, and arch types in bridge construction and typical retaining wall and irrigation structures are worked out in the drafting room and detailed drawings made.

Required in Civil, Highway, and Irrigation Engineering; junior year; third term; 3 credits; 2 recitations; 3 hours designing-room instruction. Fee \$1.50. Text: Turneaure and Maurer, Principles of Reinforced Concrete Construction. *S. H. Sims*

CE 353. **Structural Analysis.** A study of graphic and algebraic analysis as applied to the determination of stresses in girders, cranes, derricks, roof, and bridge trusses, and similar structures.

Required in Civil, Highway, and Irrigation Engineering; junior year; third term; 3 credits; 2 recitations; 3 hours designing-room instruction. Fee \$1.50. Text: Kirkham, Structural Engineering. *S. H. Sims*

CE 431. **Railroad Engineering.** A study of methods in railway construction and maintenance, standard structures, trestles, tunnels, culverts, minor bridges, ballast, rails and rail fastenings, yards, terminals, etc.

Prerequisite: CE 221. Required in Civil, Highway, and Irrigation Engineering; senior year; third term; 5 credits; 2 recitations;

9 hours laboratory practice. Fee \$1.00. Text: Raymond, Elements of Railroad Engineering. *S. M. Dolan*

CE 443. Reinforced Concrete. A continuation of CE 342, including the design of reinforced concrete culverts, flumes, dams, and retaining walls, and a complete analysis of the elastic arch.

Prerequisite: CE 342. Required in Civil, Highway, and Irrigation Engineering; senior year; first term; 2 credits; 1 lecture; 5 hours designing-room practice. Fee \$1.50. Text: Turneaure and Maurer, Principles of Reinforced Concrete Construction.

S. H. Sims

CE 444. Reinforced Concrete and Foundation Design. A study of the basic principles of reinforced concrete design as applied to design of mill and office buildings, footings, and machinery beds, etc. Especially adapted to the needs of the mechanical engineer.

Required in Mechanical Engineering; senior year; second term; 3 credits; 1 recitation; 6 hours designing-room practice. Fee \$1.50. Text: Hool, Reinforced Concrete Construction, Vols. I and II.

S. H. Sims

CE 451. Structural Engineering. The design of steel-truss bridges for standard highway and railway traffic and of steel and timber mill and office buildings.

Prerequisite: CE 353. Required in Civil, Highway, and Irrigation Engineering; senior year; first term; 4 credits; 1 recitation; 9 hours designing-room practice. Fee \$1.50. Text: Kirkham, Structural Engineering.

S. H. Sims

CE 452. Structural Engineering. Drafting-room instruction in the preparation of detail and shop drawings, material bills, cost estimates, etc., for structural steel truss and girder spans.

Prerequisite: CE 451. Required in Civil, Highway, and Irrigation Engineering; senior year; second term; 4 credits; 1 recitation; 9 hours designing-room practice. Fee \$1.50. Text: Kirkham, Structural Engineering.

S. H. Sims

CE 453. Structural Engineering. A continuation of CE 452, including an elementary treatment of the draw span, continuous truss, and girder bridge, suspension span, arch rib, and cantilever.

Prerequisite: CE 452. Required in Civil and Highway Engineering; senior year; third term; 4 credits; 1 recitation; 9 hours designing-room practice. Fee \$2.00.

CE 454. Advanced Structural Analysis. A study of elastic deformations as a means of solution for statically indeterminate structures, including execution of graphical deflection diagrams,

analysis of stresses in continuous spans, fixed arch ribs, and like construction, and study of influence lines as a method of analysis.

Prerequisite: CE 453. First term; 3 credits; 1 recitation; 6 hours laboratory instruction. Fee \$2.00. *S. H. Sims*

CE 455. **Elastic Deformations and Secondary Stresses.** A continuation of CE 454, including study of secondary stresses, methods of computation for same; comparative merits of different types of construction, erection problems, methods, etc.

Prerequisite: CE 454. Second term; 3 credits; 1 recitation; 6 hours designing-room practice. Fee \$2.00. *S. H. Sims*

CE 456. **Wood and Steel Structures.** Covers practically the same ground as CE 353, with emphasis placed on the design of mill buildings.

Required in Mechanical Engineering; senior year; first term; 3 credits; 1 recitation; 6 hours designing-room practice. Fee \$1.50. Text: Howe, Design of Simple Roof Trusses in Wood and Steel.

S. H. Sims

CE 481, 482, 483. **Civil Engineering Seminar.** The members of the senior classes in the curricula in Civil, Highway, and Irrigation Engineering, and the professors and instructors, constitute the Civil Engineering Seminar, which meets once a week. The purpose of this seminar is to bring the students in touch with engineering literature and practice. To this end a number of journal reviews and papers on engineering subjects are presented and freely criticised each week. The work follows a previously arranged program.

Required in Civil, Highway, and Irrigation Engineering; senior year; three terms; 1 credit each term; 1 recitation. Fee \$1.00.

S. H. Sims

ELECTRICAL ENGINEERING

This curriculum is designed especially to train the young engineer in the theory of his profession, such practical work as is given in shop and laboratory being subordinated to this end. Practical acquaintance with actual conditions can be acquired only in the field, during vacation and after graduation. For this reason, and in order to supplement his college education, the student is urged to spend at least a part of his vacation in some line of electrical industry.

Equipment. The laboratory of this department occupies the west half of the first floor of Apperson Hall. Besides the equipment in the laboratory, including generators, motors, and other apparatus, the machinery in the College power plant and sub-station is available for study and testing purposes. Three-phase electrical energy is supplied by the long-distance transmission line or by the local generating unit as desired. In addition to the regular equipment, the department is particularly well equipped to handle high-voltage testing with one ten-kilowatt 110,000-volt transformer, and one 100-kilowatt 350,000-volt Thordarsen transformer.

COURSES

EE 101, 102, 103. **Elements of Electricity.** An elementary course in the construction and operation of the simpler types of electrical equipment.

Required; freshman year; three terms; 3 credits each term; 2 lectures; 1 three-hour laboratory period. Fee \$2.00 a term.

J. H. Belknap

EE 201, 202, 203. **Introduction to Electrical Engineering.** An introduction to the study of electrical engineering problems, including measuring instruments, connections, and circuits.

Required; sophomore year; three terms; 3 credits each term; 2 lectures; 1 three-hour laboratory period. Fee \$2.00 a term.

J. H. Belknap

EE 251. **Technical Electricity.** A preliminary electrical course for non-electrical engineering students, covering the fundamentals of the subject.

Sophomore or junior year; any term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$2.00. Text: Gray, Principles and Practice of Electrical Engineering.

EE 252. **Electrical Machinery.** A continuation of EE 251, considering the application of electricity to industrial operation, motor selection, operation, and control.

Sophomore or junior year; any term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$2.00. Text: Gray, Principles and Practice of Electrical Engineering.

EE 301, 302, 303. **Electrical Engineering.** A study of electrostatics, electromagnetism, and direct and alternating current machinery.

Required; junior year; three terms; 4 credits each term; 4 recitations. Text: Christies, Electrical Engineering.

EE 321, 322, 323. **Electrical Laboratory.** A study of wave form and polarity of alternating currents; current voltage and power relations in circuits involving resistance, inductance, and capacity; operation of direct and alternating current machinery.

Required; junior year; three terms; 2 credits each term; 1 three-hour laboratory period. Fee \$2.00 a term.

EE 401, 402, 403. **Electrical Engineering.** An analysis of electric-power generation, transmission, and distribution with special reference to the technical, economic, and financial problems involved.

Required; senior year; three terms; 3 credits each term; 3 lectures. *R. H. Dearborn*

EE 411, 412, 413. **Electrical Design.** Design and computation of problems assigned in connection with EE 401, 402, 403.

Required; senior year; three terms; 1 credit; 1 laboratory period. *R. H. Dearborn*

EE 421, 422, 423. **Electrical Laboratory.** Characteristic performance of alternating machinery, parallel operation, and pump back tests. Engineering and commercial tests on standard electrical machinery.

Senior year; three terms; 2 credits; 1 laboratory period. Fee \$2.00 a term. Text: Karapetoff.

EE 431. **Electric Lighting.** Study of electric lamps and their application to exterior and interior illumination.

Senior year; first term; 3 credits; 3 recitations.

L. F. Wooster

EE 432. **Electric Railways.** Study of the application of electricity to street and interurban railways; traffic conditions; rolling stock; speed time curves.

Senior year; second term; 3 credits; 3 recitations.

L. F. Wooster

EE 433. **Electric Signaling.** Study of telegraph, telephone, and wireless equipment and their application to the transmission of intelligence.

Senior year; third term; 3 credits; 3 recitations.

L. F. Wooster

EE 441. **Central Stations.** A study of the problems arising in the operation of electric utilities.

Elective; senior year; first term; 3 credits; 3 lectures.

R. H. Dearborn

EE 442. **Public Service Regulation.** A study of public utility regulation; appraisals; rate making; service rules, etc.

Elective; senior year; second term; 3 credits; 3 lectures.

R. H. Dearborn

EE 443. **Railway Electrification.** A study of conditions governing the electrification of trunk lines.

Elective; senior year; third term; 3 credits; 3 lectures.

L. F. Wooster

EE 481, 482, 483. **Seminar.** Presentation of abstracts and discussion of articles in the current electrical periodicals.

Elective; senior year; three terms; 1 credit each term; 1 recitation.

R. H. Dearborn

EE 491. **Thesis.** A course, elective by permission, for those whose records indicate ability to complete a satisfactory thesis.

Senior year; 2 credits.

R. H. Dearborn

HIGHWAY ENGINEERING

There are few lines of public endeavor where more money is being spent, or where a higher degree of technical skill and training is required, than in the field of highway engineering. The purpose of these courses is to meet the demand in this State and throughout the Northwest for men equipped to take charge of road and street construction and maintenance work. Aside from the opportunity for useful and honorable service, no field, it is believed, offers greater encouragement in a financial way to the young man of ambition and ability.

Thorough theoretical instruction is accompanied by as much laboratory and field practice as possible. The curriculum includes such basic studies as Mathematics, Chemistry, Physics, Drawing, Materials of Engineering, Applied Mechanics, and Hydraulics, in addition to the technical work given by this department.

In the study of highways, special reference is made to the conditions and needs of Oregon. Besides study of the higher types of roads, due consideration is given to the construction and maintenance of the dirt, gravel, and broken-stone roads. In consequence of the vast area of the State, this class of roads must, of necessity, constitute the greater part of its highways for many years.

Equipment. The equipment of the department is modern and adequate. The Department of Mechanics and Materials is equipped with modern testing laboratories, including the best cement- and highway-testing machinery, thus affording students in Highway Engineering the opportunity of studying by direct observation and experiment the strength and properties of the various engineering materials.

COURSES

HE 311. Roads and Pavements. A study of the fundamental principles of location, construction, and maintenance of roads; materials used in road and street building; asphalt, brick, wood block, stone, concrete, and other types of pavements. This course is given in connection with a laboratory course, MM 312.

Required in Civil, Highway, and Irrigation Engineering, and in Landscape Gardening; junior year; first term; 3 credits; 3 recitations. *G. V. Skelton*

HE 312. Roads and Pavements. A continuation of HE 311.

Required in Civil, Highway, and Irrigation Engineering and in Landscape Gardening; junior year; second term; 3 credits; 2 recitations; 1 three-hour laboratory period. *G. V. Skelton*

HE 411. Highway Engineering. Economic grades and proper location for different soils and surfacing materials; surface and

sub-surface drainage; culvert design and construction; construction and maintenance of earth, sand-clay, gravel, macadam, concrete, brick, and other types of roads; dust preventives and road binders; reconnaissance, surveys, estimates, plans, and specifications; organization of construction and engineering forces; cost data; methods of handling work.

Prerequisites: HE 311 and 312. Senior year; first term; 4 credits; 2 recitations; 2 three-hour laboratory periods. *G. V. Skelton*

HE 412. **Highway Engineering.** Continuation of HE 411.

Required in senior year; second term; 3 credits; 2 recitations; 1 three-hour laboratory period. *G. V. Skelton*

HE 413. **Highway Engineering.** Continuation of HE 411 and 412.

Required in senior year; third term; 4 credits; 2 recitations; 2 three-hour laboratory periods. *G. V. Skelton*

HE 416. **Economics of Highway Construction.** Economic and social advantages of improved roads; the traffic census; local and centralized systems of control; highway laws of different states; organization of construction and engineering forces; cost data; estimate methods of handling work; forms of contract—lump sum, unit price, percentage, and cost plus fixed sum.

Required in senior year; first term; 3 credits; 3 three-hour laboratory periods. *G. V. Skelton*

HE 417. **Highway Transportation.** A study of the various methods of highway transportation with especial reference to cost; the traffic census and its application; highway laws of different states; methods of financing highway construction; relation of character of traffic to type of construction, etc.

Elective; senior or graduate year; first term; 3 credits; 3 recitations. *G. V. Skelton*

HE 427. **Contracts and Specifications.** A study of the general principles and laws of contracts as applied to engineering, including preparation and study of specifications and contracts based upon engineering structures designed by the individual student.

Required in Civil and Mechanical Engineering; senior year; second term; 3 credits; 3 recitations. *G. V. Skelton*

HE 438. **Municipal Engineering and City Planning.** The modern city streets, boulevards, and transportation systems; drainage and sanitation; water supply; lighting. A course of lectures and assigned readings.

Required in senior year; third term; 3 credits; 3 recitations.

G. V. Skelton

HYDRAULICS AND IRRIGATION ENGINEERING

Successful agriculture in the arid parts of Oregon is based on the science of irrigation. The widespread development of both arid and swamp lands in this and other states of the West, by means of gravity supplies and pumping systems, has extended the necessary qualifications of the engineer to include a knowledge of irrigation methods, pumping, and power machinery. The province of the engineer, therefore, comprises the development, conservation, and economical use of limited water supplies on the one hand, and the disposal of surplus water on the other.

Realizing that the young engineer is frequently obliged to take charge of work which properly falls outside of the field in which he has specialized, the courses in Hydraulics and Irrigation Engineering are arranged to cover as broad a field as practicable, in order that the graduate may experience little difficulty in accommodating himself to the available positions. The curriculum in the freshman, sophomore and junior years is the same as in General Civil Engineering. It has for its purpose the laying of a foundation on which to build the more specialized technical work of the senior year. The last year is intended to equip the student with a well-rounded knowledge of hydraulic engineering, a knowledge which will enable the student to hold a responsible position in reclamation and power development work.

The work of this department is designed to furnish a thorough course of theoretical instruction, accompanied by practice in the various lines of irrigation, drainage, water-supply, and water-power engineering. The courses, moreover, are made practical by a large proportion of laboratory and field practice in conjunction with the theoretical work. Stress is given to actual operation and adjustment of hydraulic machinery, together with the diagnosis of pump troubles, by the individual student, in the laboratory. Emphasis is laid on skill in handling surveying and water-measuring instruments. The student is taught how to make stream measurements; design and layout dams, canals, headworks, flumes, pipe lines, pumping plants, and distributing systems. Inspection trips are conducted in the junior and senior years to hydraulic plants to familiarize the student with the larger hydraulic-engineering problems.

Equipment. The excellent equipment of the Civil Engineering department, as described under that title, is available for use by the students in Hydraulics and Irrigation Engineering. Besides the drafting rooms, the student has the use of transits, levels, plane-tables, current meters, and tapes, for practical work. The new

engineering laboratory, now under construction, will be provided with an ample equipment of pumps, rams, water wheels, meters, gauges and other measuring devices for practical and experimental operation by the students. Facilities for experiments with weirs, orifices, and devices for measuring irrigation water are provided.

In addition to the above facilities, the proximity of the Willamette and Mary's rivers, Oak Creek, and the millrace of the Corvallis Flouring Mills, affords excellent opportunities for practice in stream gauging. For those students who desire to prepare themselves for positions as managers of irrigation projects, the courses in Drainage and Irrigation give access to the equipment of that department.

COURSES

IE 211. Hydraulics. An elementary course dealing with the pressure of water on gates, dams, and pipes; the flow of water in pipes and open waterways; operation of hydraulic machinery with thorough laboratory practice in the diagnosis and correction of the troubles commonly met in operation.

Prerequisite: Mth 131. Required in Mechanical Engineering (sophomore year) and in Mining Engineering (junior year): first term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$1.00. Text: Daugherty, Elements of Hydraulics.

T. A. H. Teeter, J. Dubuis

IE 213. Hydraulics. A course covering the same field as IE 211 and 316 given for students in Electrical Engineering.

Prerequisite: Mth 131. Required in Electrical Engineering; sophomore year; third term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$1.00. Text: Daugherty, Elements of Hydraulics.

T. A. H. Teeter, J. Dubuis

IE 232. Hydrology. A continuation of elementary hydraulics followed by a course dealing with relations between rainfall and run-off; flow from watersheds; stream flow; study of current meters; weirs and measuring devices; power and storage studies.

Prerequisite: IE 211 or 213. Required in Civil, Highway, and Irrigation Engineering; elective for others; sophomore year; third term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$1.00. Text: Hoyt and Grover, River Discharge. *T. A. H. Teeter*

IE 311. Hydraulics. Practical application of the principles of hydraulics to irrigation farming, especially for agricultural students; pressure in tanks, pipes, and flumes; measurement of water by weirs, orifices, and current meters; losses of head in pipes; design of open channels; seepage losses; operation of pumps and other lifting devices.

Elective in Agriculture; senior year; first term; 3 credits; 3 lectures. Text: Merriman, *Elements of Hydraulics*.

T. A. H. Teeter

IE 312. Hydraulic Power Plants. A study of the application of the principles of hydraulics to power production in hydroelectric plants, stream-flow dams, headworks, pipe lines, wheels, and speed regulation.

Prerequisite: IE 213 or equivalent. For students in Electrical Engineering; junior year; first term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$1.00. Texts: Lyndon, *Hydroelectric Power*. Daugherty, *Hydraulics*.

T. A. H. Teeter

IE 313. Advanced Hydraulics. The practical application of flow of water in streams; measurement of water; weirs, orifices, current meters, and methods of measurement; power variation, storage, pipe lines, and penstocks; dams and water turbines.

Prerequisite: IE 211. Required in Mechanical Engineering; junior year; first term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$1.00. Text: Lyndon, *Hydroelectric Power*, Vol. I.

T. A. H. Teeter

IE 314. Hydraulic Installations. Design and layout of complete pumping or power plants including buildings and foundations, pipe lines, and protective devices in accordance with the best American practice.

Prerequisite: IE 211. Required in Mechanical Engineering; junior year; second term; 3 credits; 2 lectures; 1 laboratory period. Fee \$1.00. Text: Daugherty, *Centrifugal Pumps*.

IE 316. Hydraulics. A course covering the same field as IE 211 for students in Civil, Highway, Irrigation, and Mining Engineering.

Prerequisite: Mth 131. Required in Civil, Highway, and Irrigation Engineering (sophomore year); second term; 3 credits; 2 lecture periods; 1 three-hour laboratory period. Fee \$1.00. Text: Daugherty, *Elements of Hydraulics*.

T. A. H. Teeter, J. Dubuis

IE 323. Sanitary Engineering. Drainage systems of populous districts; collection and disposal of garbage; separate and combined water-carriage systems; surveys, plans, and specifications; brick, terra cotta, cement, and concrete sewers; design of inlets, flush-tanks, etc.; sewage disposal.

Prerequisite: IE 211. Required in Civil Engineering; junior year; first term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$1.00. Text: Folwell, *Sewerage*.

J. Dubuis

IE 332. Hydraulic Laboratory. A continuation of IE 316, but with reference to water measurement, pumps, hydraulic power, and air machinery.

Prerequisite: IE 316. Required in Civil Engineering (junior year); elective in Electrical Engineering (senior year); third term; 3 credits; 1 recitation; 6 hours laboratory work. Fee \$3.00.

T. A. H. Teeter, J. Dubuis

IE 335. Hydraulic Laboratory. Continuation of IE 316 and similar in scope to IE 332.

Prerequisite: MM 334. Required in Chemical Engineering; junior year; third term; 2 credits; 6 hours laboratory work. Fee \$3.00. Text: Moyer, Power Plant Testing.

T. A. H. Teeter, J. Dubuis

IE 341. Hydraulic Laboratory. A comprehensive study of water measurement and flow, pumping and hydraulic power development, and allied topics.

Prerequisites: Courses in Mathematics and Theoretical Hydraulics as prescribed in the Mechanical Engineering curriculum. Required in Mechanical Engineering; junior year; third term; 3 credits; 9 hours laboratory work. Fee \$3.00. Texts: Carpenter and Diederichs, Experimental Engineering. Meade, Water Power.

T. A. H. Teeter, J. Dubuis

IE 411. Municipal Water Supply. Determination of the available supply and quality of water for domestic purposes; ground water; source of water supply; conveying and storing water; reservoirs and dams; fire protection; economics of pumping; installation of pumping plants; purification processes.

Prerequisites: CE 353, IE 316. Required in Civil Engineering; senior year; first term; 4 credits; 2 lecture periods; 2 three-hour laboratory periods. Fee \$2.00. Text: Turneure and Russell, Water Supply Engineering.

T. A. H. Teeter

IE 412. Municipal Water Supply. A course similar to IE 411 for students taking the Irrigation Engineering option.

Prerequisites: CE 353, IE 316. Required in Irrigation Engineering; senior year; third term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$1.00. Text: Turneure and Russell, Water Supply Engineering.

T. A. H. Teeter

IE 414. Irrigation Engineering. Investigations and surveys for the location and construction of irrigation systems; precipitation and run-off; stream flow and underground flow; storage, evaporation, and seepage; canal protection; alkali and drainage; duty of water; its measurement and delivery; records.

Prerequisite: IE 232. Required in Civil and Irrigation Engineering; senior year; first or third term; 3 credits; 2 lectures; 1 laboratory period. Fee \$1.00. Text: Davis-Wilson, Irrigation Engineering. *J. Dubuis*

IE 415. Irrigation Operation. Operation and maintenance of irrigation systems; protection of canals; erosions; burrowing animals; canal cleaning; maintenance of structures; general operation; organization; delivery of water; financial phases of operation.

Prerequisite: IE 211 or 311. Elective in Irrigation Engineering; required of Agriculture students majoring in Soils; 3 credits; 3 recitations. Text: Harding, Operation and Maintenance of Irrigation Systems. *J. Dubuis*

IE 416. Drainage Engineering. Surveys for, and design of, large drainage systems; run-off and drainage coefficients; open ditch construction; draining and cleaning of large drainage channels; sizes of tile drains; plans, reports, and records; preparation and enforcement of specifications; estimates and division of costs; inspection.

Prerequisite: IE 211. Required in Irrigation Engineering; senior year; first term; 3 credits; 2 lectures; 1 laboratory period. Fee \$1.00. Text: Elliott, Engineering for Land Drainage. *T. A. H. Teeter*

IE 422. Public Health and Sanitation. Safety-first measures; prevention of accidents; public sewage disposal, garbage disposal, street cleaning; the protection and purification of water supplies; ventilation and fresh air; relation of engineering to public health.

Required in Civil Engineering; senior year; second term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$1.00. *J. Dubuis*

IE 433. Water Power Engineering. Development of water power on streams; of pondage; storage and load factor; the characteristics of modern water turbines; turbine constants; selection of stock turbines; speed regulation; governing large plants; practical problems in the design of plants.

Prerequisite: IE 211. Elective for seniors or graduates; required in Irrigation option; senior year; third term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$1.00. Text: Meade, Water Power Engineering. *T. A. H. Teeter*

IE 435. Irrigation Structures. Design and selection of structures used in the storage and conveyance of water; design of head-works; wood and metal flumes; selection of dam sites; stability of masonry dams; design of canal sections; design of gates, weirs,

and measuring devices; pipe lines; earthen dams; reservoirs; flash boards and movable dams; hollow dams; and their application to storage.

Prerequisites: CE 353; IE 102, 414. Required in Irrigation Engineering; senior year; second term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$1.00. *J. Dubuis*

IE 446. Hydraulic Laboratory. A brief course affording practical work in the study of hydraulic problems, particularly those relating to water flow and measurement and pumping.

Elective in Soils; senior year; second term; 2 credits; 6 hours laboratory work. Fee \$3.00. Text: Russell, Hydraulics (for reference). *T. A. H. Teeter, J. Dubuis*

IE 451. Navigation. Practice in use of instruments and charts and technic of navigation; determination of latitude, longitude, and time; dead reckoning; astronomical location; study of signals; tides and storms.

Elective for students who have had Trigonometry; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$1.00. Text: Hosmer, Navigation. *T. A. H. Teeter*

IE 461. Hydrography. This consists of a brief study of the figure of the earth and the celestial sphere, followed by methods of determining latitude, longitude, time, and azimuth from the sun and stars; triangulation; river and harbor surveys; coast and geodetic surveys; the location of soundings; maritime charting and mapping; numerical problems to supplant the field work.

Prerequisite: Spherical Trigonometry. Elective; junior or senior year; second term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$1.00. *T. A. H. Teeter*

IE 471. Water Law. Riparian rights; early development of the water laws in arid regions; doctrine of appropriation; beneficial use; California and Colorado doctrines; rights of appropriation; storage and diversion; rights of way; relation of water to land appurtenant; prescription; abandonment; Federal water laws; state control; water laws of Oregon; adjudication; irrigation and drainage district law; duties of state engineer; Canadian and foreign water laws.

Elective in Irrigation Engineering; senior year; any term; 2 credits; 2 lecture periods. Text: Davis, The Law of Irrigation.

T. A. H. Teeter

INDUSTRIAL ARTS

There is a steadily increasing demand for competent, trained teachers of the Industrial Arts subjects, at beginning salaries ranging from \$1,200 to \$2,000, to teach in elementary, secondary, and vocational schools of Oregon and other states. The manual instruction for boys and girls below the seventh grade is generally given by the regular grade teachers, but the supervisor or special teacher of manual training should be able to organize this work and correlate it with other school subjects and with the later formal courses in manual arts. For boys, this work will take the form of instruction in woodworking, blacksmithing, auto repairing, cement work, and vocational work in the various trades. Where the work is highly specialized along some trade line it is partly financed by the Federal Government.

A degree curriculum of the same general standard as the other B.S. curricula is provided in order that the young man who specializes in this field may receive preparation that will place him upon a par with high-school teachers of other branches. The Industrial Arts department is a part of the School of Engineering and has under its supervision all the shop courses offered in the other departments of the College.

Equipment. This department provides the necessary equipment for carrying on the different lines of shop work in the degree and vocational curricula.

The Wood Shop, supplied with the best machines and tools the market affords, contains twenty-four double benches of modern design, accommodating forty-eight students. Each bench is provided with patent rapid-action vises for holding the work, and is furnished with two sets of hand tools, consisting of rip saws, cut-off saws and backsaws, planes, chisels, marking gauges, try-squares, hammers, dividers, and oilstones. The machine equipment of this shop consists of fifteen wood-turning lathes, each furnished with a set of tools; one iron saw-table with rip and cut-off saws, one hand saw, one jig-saw, 24-inch surface planer, 16-inch glue joiner, one hollow chisel mortiser, one belt sander, one veneering press, one disc sander built by the students, and two grindstones. There are also two glue tables with clamps of various sizes, two electric glue heaters. The power is furnished by two three-phase induction motors of 15 and 5 horse-power.

The Forge Shop contains forty-two down-draft forges of the most approved pattern. Blast is furnished by a steel pressure blower driven by a 10-horse-power induction motor, and the smoke

and gases are removed by an 80-inch exhaust fan, driven by a 20-horse-power motor. Each forge is provided with an anvil, hammers, hardies, tongs, and other small tools. An emery grinder, built by students, has been added to the equipment. There are also swedge blocks and vises at convenient points in the room for general use. A power hammer has recently been added.

The machine shop contains one 24x24-inch iron planer, one 15-inch shaper, one 12-inch shaper, one universal milling machine, one universal tool grinder, one wet tool grinder, one radial drill, one 20-inch drill press, one sensitive drill press, one 20-inch engine lathe, one 16-inch engine lathe, one 16-inch universal turret lathe, one 14-inch modern geared lathe, five 14-inch engine lathes, two 10-inch speed lathes, one shop saw, one automatic knife grinder, and twelve bench vises. A 20-horse-power induction motor furnishes the power. A tool-room adjacent contains the small tools, These tools are given out to the students on the check plan.

The Plumbing and Steam Fitting Shop is equipped with all of the hand tools necessary for cutting, threading, and general pipe work, as well as gasoline torches, soldering outfits, and other apparatus for making lead-pipe connections and wiped joints.

The Foundry contains a 22-inch Colliau cupola having a capacity of two tons per hour, one 1,200-pound crane ladle, one 800-pound crane ladle, bull ladles, and hand ladles, one 16-inch brass furnace, brass molder's tub, crucibles, one large core-oven, one portable core-oven, one two-ton jib crane, one wall crane for charging floor, one Delano pulley moulding machine No. 2, besides shovels, rammers, and small tools to accommodate twenty students at one time. An emery grinder, built by the students, has been added.

The Auto Mechanics Building, a temporary wooden structure, well lighted and conveniently located, is equipped with all the standard tools usually found in a modern commercial garage. Among the tools are speed wrenches, special wrenches, standard reamers, taps and dies, valve-seating tools, electric drill, jacks, and pliers. The general equipment includes two portable cranes, a twin jack, motor generator set, vulcanizing outfit, 5-horse-power motor, line shafting, emery grinder, drill press, and battery repairing tools. A Ford car and a Maxwell truck, used in towing cars and for general utility purposes, together with various parts of cars for instructional purposes, are also elements of the Auto Mechanics equipment.

The automotive laboratory is equipped with three chassis, each illustrating certain distinctive features of automobile running gear. There are also some ten automobile and truck motors, illustrating

nearly all of the types in use. All of these are mounted on suitable stands and several are equipped with fan dynamometers and other auxiliaries for testing. For the study of ignition and starting and lighting systems there are provided many especially constructed tables and stands which may be used in illustrating the principles involved, or in wiring exercises. Many models (sectioned and working) of transmissions, bearings, steering gears, carburetors, and other automobile parts and accessories are available.

COLLEGIATE COURSES

IA 111. Manual Training. Designed to meet the needs of those students who desire to teach manual training in the sixth, seventh, eighth, and ninth grades of the public schools. A course in wood construction and design; theory and practice in the proper use of tools; growth and structure of woods; shrinkage, warpage, and seasoning of timber; staining and finishing; study of shop methods, equipment, and courses of study.

Required in Industrial Arts; freshman year; any term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00. *H. C. Brandon*

IA 112. Manual Training. Continuation of IA 111. Problems requiring more technical skill and more knowledge of design and tool processes are taken up.

Required in Industrial Arts; freshman year; second or third term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00. *H. C. Brandon*

IA 113. Manual Training. Intended to familiarize those students who wish to teach manual training in the high school with commercial methods in wood-working such as are used in the average jobbing shop and with such machinery as is found in the better equipped high school. Well-designed pieces of furniture are made and finished.

Prerequisites: IA 111, 112. Required in Industrial Arts; freshman year; third term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00. *H. C. Brandon*

IA 114. Cabinet Work. Designing and construction of furniture according to the ability of the individual student; mixing of stains, fillers, and various finishes, with their application; study of the design and construction of drawers and panel work; primary upholstery.

Elective; any term; 2 credits; 2 laboratory periods. Fee \$4.00. Deposit \$1.00.

IA 121. Woodwork. A series of construction exercises in joinery and carpentry accompanied by lectures dealing with care and use of bench tools; uses of the steel square in building construction; and the design and construction of trusses, trussed roofs, and timber bridges.

Required in Forestry, Logging Engineering, and Electrical Engineering; freshman year; any term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00. *D. K. Mereen*

IA 132. Patternmaking. Offered to students having two-credit course in patternmaking or equivalent. Construction of the more complicated patterns and core boxes necessary for the building of steam and gas engines or other machine parts.

Elective; first or second term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00. *D. K. Mereen*

IA 141. Foundry Practice. Includes a study of foundry equipment; care and management of cupolas; mixing and melting of iron; molding in green and dry sand; preparation of cores; casting in iron and brass.

Required in Mechanical Engineering; freshman year; any term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00.

A. E. Ridenour

IA 142. Advanced Foundry Practice. Elective; freshman year; any term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00.

A. E. Ridenour

IA 152. Blacksmithing. The student is taught to make and manage a forge fire; to shape iron by bending, upsetting, drawing, and welding. Many useful articles are made, including hooks, staples, rings, clevises, and chains.

Required in Mechanical Engineering (freshman year, third term) and in Electrical Engineering (sophomore year, second term); 2 credits; 2 three-hour laboratory periods. Fee \$4.00.

W. M. Porter

IA 171. Plumbing. Briefer course than IA 373.

Elective; any term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00.

C. G. Wiltshire

IA 181. Auto Mechanics. Intended for owners and drivers of cars, emphasizing adjustment, maintenance, and ordinary running repairs of the various parts and units of the automobile; lubrication; cleaning; care of batteries and electrical systems; various types of construction as employed in machines of different manufactures; actual inspection of different types of cars afforded by cars that are being overhauled in the shop.

Elective; any year; any term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00. *M. L. Granning*

IA 182. **Auto Mechanics.** More comprehensive course than IA 181.

Required in Industrial Arts; senior year; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. *M. L. Granning*

IA 191, 192, 193. **Shop Drawing.** For those students who plan to teach manual training. The elements of drawing; use of drawing instruments; lettering; general construction; methods of representation; free-hand sketching; considerable attention to drawings of pieces of furniture and constructions in wood that may be worked out in the shop. In the third term the problem of furniture design receives considerable attention.

Required in Industrial Arts; freshman year; three terms; 2 credits each term; 2 three-hour laboratory periods. Fee \$0.50 each term. *H. C. Brandon*

IA 212. **Patternmaking.** Exercises with the common bench tools, emphasizing draft, shrinkage of metals and its effect upon the warp-age of castings, etc.; construction of parts of machinery; construction of patterns and core boxes of different types; lumber suitable for patternmaking; glue and metal fastenings; methods of marking; storing of patterns; estimating the weight of castings.

Required in Mechanical Engineering; any term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00.

D. K. Mereen

IA 213. **Patternmaking.** Principles of wood turning and pattern-making and their application to the useful arts; lectures and recitations upon selection of material, fastenings, and joints, shrinkage of wood, allowance for shrinkage of metal, etc.

Required in Industrial Arts; sophomore year; first term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00. Text: International Correspondence School pamphlets.

D. K. Mereen

IA 222. **Carpentry.** Deals with the correct use of the steel square in laying out practical carpenter work, window-sills and door-sills, bay and circular windows, steps, stairs, etc.; detailed construction of window and door frames; sills, caps, weights, and fastenings in relation to the rough framework and the exterior and interior finish of the building; construction of cornices; gutters; brackets, columns, and newel posts; problems involving original design and construction; practice in reading plans, filling out material bills, and estimating cost of material and labor.

Required in Industrial Arts; elective in other curricula; sophomore year; third term; 3 credits; 1 lecture; 2 laboratory periods. Fee \$4.00. Deposit \$1.00.

IA 242. Foundry Practice. More comprehensive than IA 141.

Required in Industrial Arts; sophomore year; second term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$4.00.

A. E. Ridenour

IA 252. Advanced Blacksmithing. Continuation of IA 152 or equivalent for those who wish to take another term of blacksmithing.

Elective; sophomore year; any term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00.

W. M. Porter

IA 253. Forging and Tool Dressing. After a minimum amount of preliminary work in forging iron the remainder of the term is devoted to making, tempering, and dressing chisels, drills, and other tools.

Required in Mining Engineering and Chemical Engineering; sophomore year; third term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00.

W. M. Porter

IA 254. Tool Making and Tempering. Devoted to the study of the heat treatment of steel as exemplified in the making and tempering of springs, machine tools, and other articles of steel.

Prerequisite: IA 152 or equivalent. Required in Mechanical Engineering; sophomore year; first term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00.

W. M. Porter

IA 262. Machine Shop. Both bench and machine work involving principles of chipping, filing, and hand finishing; exercises on lathe, shaper, planer, drill press, and milling machine; lectures on the proper uses of machine tools; cutting speeds; and labor and time-saving methods.

Required in Mechanical Engineering (sophomore year, second term) and in Electrical Engineering (freshman year, third term); 2 credits; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00.

G. H. Hill

IA 263. Machine Shop. Continuation of IA 262. Considerable time is given to shop and factory management and to labor-saving devices in rapid production work.

Required in Mechanical Engineering (sophomore year, third term) and in Electrical Engineering (sophomore year, first term); 2 credits; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00.

G. H. Hill

IA 333. Wood Turning. A series of exercises in wood turning intended to familiarize the student with the various uses of lathe

tools; methods of centering and chucking; segment work; staining and polishing. Small pieces of furniture such as vases, bowls, rings, trays, tables, and stools are worked out.

Required in Industrial Arts; elective in other curricula; junior year; second term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00. *H. C. Brandon*

IA 351. Forging. Deals with the equipment of the blacksmith shop; exercises in bending, shaping, upsetting, and welding iron; instruction in hardening and tempering steel; brazing; lectures on the management of a shop, instruction, and shop equipment.

Required in Industrial Arts; junior year; first term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. *W. M. Porter*

IA 352. Hammered Metal Work. Consists of hand-wrought metal work, including hard and soft soldering; the formation of bowls, trays, boxes, lamp shades; and design and construction of furniture fittings.

Required in Industrial Arts; junior year; second term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. *W. M. Porter*

IA 363. Machine Shop. Includes both bench and machine work, taught by a series of exercises in chipping, filing, and finishing; machine work on lathe, shaper, planer, drill press, and milling machine.

Required in Logging Engineering; junior year; third term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. Deposit \$1.00. *G. H. Hill*

IA 373. Plumbing. Care and practice in the handling of tools; in working with fittings, traps, valves, and faucets; in the laying out and constructing of plumbing for dwellings and schools; range boiler and other hot-water connections; care and upkeep of the plumbing of residences and schoolhouses.

Required in Industrial Arts; junior year; third term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. *C. G. Wiltshire*

IA 461. Machine Shop. Includes both hand processes of chipping, filing, and polishing, and practical work on the lathe, drill press, planer, and shaper, taught by carefully planned exercises. The lectures and instructional work cover the proper use of tools, selection, care, and use of machine tools, and methods of instruction.

Required in Industrial Arts; senior year; first term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. Deposit \$1.00. *G. H. Hill*

IA 462. Machine Shop. Continuation of IA 461, in which the student becomes familiar with the milling machine, oxyacetylene

welding, and general machine shop practice. Considerable attention is given to factory methods, and to processes of rapid production.

Required in Industrial Arts; senior year; second term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. Deposit \$1.00.

G. H. Hill

VOCATIONAL COURSES

IA 21. Carpentry and Cabinet Construction. The elements of joining as applied to cabinetmaking and the building trades, including tool operations, design, and construction; growth of woods, strength, warpage, and seasoning of timber; staining and polishing.

Vocational Curriculum in Mechanic Arts; first term; 6 credits; 18 hours shopwork. Fee \$10.00. *D. K. Mereen*

IA 22. Carpentry and Cabinet Construction. Continuation of IA 21. Considerable attention is given to the making of working drawings of simple pieces of furniture which are built in the shop.

Vocational Curriculum in Mechanic Arts; second term; 6 credits; 18 hours shopwork. Fee \$10.00. Deposit \$1.00. *D. K. Mereen*

IA 23. Carpentry and Cabinet Construction. Continuation of IA 22. The steel square and its uses as applied to brace and roof construction; carpentry work developed through the construction of parts of houses, barns, roofs, and bridges; construction of cornices, gutters, brackets, columns, window frames, and stairways; lectures on measurements of lumber and other materials of construction; the use of handbooks in calculating roofs, bridges, and trusses; practice in making estimates and working of problems taken from plans and specifications of houses.

Vocational Curriculum in Mechanic Arts; third term; 6 credits; 18 hours shopwork. Fee \$10.00. Deposit \$1.00. *D. K. Mereen*

IA 24. Carpentry and Cabinetmaking. Briefer course than IA 24.

Vocational Curriculum in Mechanic Arts; elective; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. Deposit \$1.00. *D. K. Mereen*

IA 31. Patternmaking. Emphasizes the necessity of draft; use of core prints and core boxes; allowance for shrinkage of iron and other metals and its effect upon different shapes and thickness of castings; distortion of patterns; use of segments, staves, ribs, etc.; operation and repair of power machinery; how to select materials such as glue, lumber, shellac, and fasteners. Much of the work is on patterns of machines that are being made in the College shops.

Vocational Curriculum in Mechanic Arts; first term; 3 credits; 18 hours shopwork. Fee \$10.00. Deposit \$1.00. *D. K. Merveen*

IA 32. Patternmaking. Briefer course than IA 31.

Vocational Curriculum in Mechanic Arts; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. Deposit \$1.00.

D. K. Merveen

IA 41. Foundry. Lectures and practice in uses of tools; characteristics of molding sand; problem of joints; parting lines; follow boards; match plates; gates for molds; pouring basins; shrinkage gates; supporting copes; uses of gagers; facings; sea coal; plumbago; talc; charcoal; preparation of facing mixtures; molding with good patterns; with broken patterns; broken castings; skeleton patterns; sweeps; moulding of sheaves; pulleys; brackets; gas-engine cylinders, and other modern types of construction; core making by core boxes, core arbors, core rods; method of venting, baking, and painting of cores.

Vocational Curriculum in Mechanic Arts; any term; 6 credits; 18 hours shopwork. Fee \$10.00. *A. E. Ridenour*

IA 42, 43. Foundry. Continuation of IA 41.

Vocational Curriculum in Mechanic Arts; second and third terms; 6 credits each term; 18 hours shopwork. Fee \$10.00 each term.

A. E. Ridenour

IA 44. Foundry. Briefer course than IA 41.

Elective; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. *A. E. Ridenour*

IA 51, 52. Forging. Principles of forging as applied to the average jobbing shop; method of building fires; use of tools in working out of nuts, bolts, bending of eyes, forging of staples, hooks, chains, and rings, clevises, and parts of farm machinery; forging of tools in high carbon steel and speed steel such as chisels, hammers, knives, and other tools; lectures on composition of iron and various low and high speed steels and the treatment especially adapted for each grade to annealing, tempering, and case hardening.

Vocational Curriculum in Mechanic Arts; any term; 6 credits each term; 18 hours shopwork. Fee \$10.00 each term. *W. M. Porter*

IA 53. Tool Making and Tempering. Study of the heat treatment of steel as exemplified in making and tempering tools, springs, knives, and machine tools.

Prerequisite: IA 51 or equivalent. Vocational Curriculum in Mechanic Arts; third term; 6 credits; 18 hours shopwork. Fee \$10.00. *W. M. Porter*

IA 54. Blacksmithing. Work having direct application to farming, such as the making and mending of farm implements, chains, clevises, and hooks; the ironing of whiffletrees and neck-yokes; repairing and sharpening of plows and other farm machinery; short talks on the method of building fires; descriptions of fans and forges; study of the proper means of heating and treating materials to be used.

Vocational Curriculum in Agriculture; second term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00. *W. M. Porter*

IA 55. Forging. Briefer course than IA 51.

Vocational Curriculum; elective; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. *W. M. Porter*

IA 61. Machine Shop. Intended for students who wish to specialize in Machine Shop Practice. Chipping and filing straight and plane surfaces; filing two pieces to fit; instruction in laying out and drilling; turning of various kinds of materials at different speeds and estimating time and cost of work done by using different methods, such as without and with gauges, micrometers, and calipers.

Vocational Curriculum in Mechanic Arts; first term; 6 credits; 18 hours shopwork. Fee \$10.00. Deposit \$1.00. *G. H. Hill*

IA 62. Machine Shop. Continuation of IA 61. Work on planer, shaper, grinder, and milling machine; practical construction of machinery such as lathes, gas engines, emery grinders; general repair work.

Vocational Curriculum in Mechanic Arts; second term; 6 credits; 18 hours shopwork. Fee \$10.00. Deposit \$1.00. *G. H. Hill*

IA 63. Machine Shop. Continuation of IA 62, in which emphasis, by means of lectures, is placed upon speed production, construction of gigs, dies, and special tools, and problems relating to tool making.

Vocational Curriculum in Mechanic Arts; third term; 6 credits; 18 hours shopwork. Fee \$10.00. Deposit \$1.00. *G. H. Hill*

IA 64. Machine Shop. Briefer course than IA 61.

Vocational Curriculum in Mechanic Arts; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. Deposit \$1.00.

G. H. Hill

IA 71. Plumbing. Intended to meet the needs of students who wish to become plumbers. Instruction and practice in care and handling of tools; in working with fittings, traps, valves, faucets, etc.; in working with sewer, soil, waste water, and gas lines; in cutting and threading water pipe to measurements; using different fittings; in laying out and constructing plumbing; in making range, boiler, and hot-water connections; and in the practical uses of the soldering iron.

Vocational Curriculum in Mechanic Arts; any term; 6 credits; 18 hours shopwork. Fee \$10.00. *C. G. Wiltshire*

IA 74. Plumbing. Briefer course than IA 71.

Vocational Curriculum in Mechanic Arts; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. *C. G. Wiltshire*

IA 81. Auto Mechanics. Lectures and practice on care and repair of frame, wheels, steering gear, brakes, axle, transmission, and simple engine adjustments; repair of different types of automobiles.

Vocational Curriculum in Mechanic Arts; first term; 6 credits; 18 hours shopwork. Fee \$10.00. *M. L. Granning*

IA 82. Auto Mechanics. Continuation of IA 81. Lectures and repair work on modern auto gas engines; general overhauling of engines; bearing fitting; cylinder and piston lapping; ring fitting; general assembly and timing of engines.

Vocational Curriculum in Mechanic Arts; second term; 6 credits; 18 hours shopwork. Fee \$10.00. *M. L. Granning*

IA 83. Auto Mechanics. Continuation of IA 82. Study of auto electrical equipment; maintenance; repair of starting, lighting, and ignition systems; repair of batteries; systematic location of troubles; and road repair.

Vocational Curriculum in Mechanic Arts; third term; 6 credits; 18 hours shopwork. Fee \$10.00. *M. L. Granning*

IA 84. Auto Mechanics. Briefer course than IA 81.

Vocational Curriculum in Mechanic Arts; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. *M. L. Granning*

IA 87. Automotive Laboratory. A course designed for students interested in the principles, operation, and adjustment of automotive equipment. A study is made of auto engines, transmissions, drives, rear axles, steering gears, suspensions, etc., together with engine accessories such as carburetor, ignition systems, starting, lighting, and generating systems.

Elective; first or second term; 3 credits; 2 recitations or lectures; 1 three-hour laboratory period. Fee \$3.00. Text: Hobbs and Elliott, *The Gasoline Automobile*.

IA 88. Automotive Testing Laboratory. A continuation of IA 87, giving more thorough consideration to valve timing, carburetor, and ignition adjustments, and including tests on automobile and truck power plants, generators, starting motors, storage batteries, etc.

Prerequisite: IA 87. Elective; second or third term; 3 credits; 2 recitations or lectures; 1 three-hour laboratory period. Fee \$3.00. Text: Hobbs and Elliott, *The Gasoline Automobile*.

MECHANICS AND MATERIALS

Courses are offered covering statics, dynamics, and the strength and properties of engineering materials. In the last division there are, in addition to the general courses which deal with structural materials, several special courses from which the student may learn the technic belonging to various specialized branches of materials treatment and testing.

The offices, class rooms, and laboratories of the department are located in the east division of the Engineering Laboratory. The floor-space occupied is about 14,000 square feet, and provides separate laboratories for structural materials, cement and concrete, bituminous and non-bituminous highway materials, oils, fuels, and the microscopic examination and heat treatment of metals. The equipment is modern, and is well arranged for the work of instruction and for a limited amount of research.

COURSES

MM 311. Materials of Engineering. Lectures and standard tests on the properties of timber, iron, steel, brick, stone, fuels, lubricating oils, etc., with special reference to the methods and specifications adopted by the American Society for Testing Materials and other national engineering organizations. In the work with metals the microscope is used to illustrate structure and to study characteristic types of defective material.

Prerequisites: Physics and Mathematics as prescribed by the curriculum followed. Required in Mechanical Engineering (junior year) and in Forestry and Logging Engineering and Industrial Arts (senior year); elective in Electrical Engineering (senior year); first term; 3 credits; 1 lecture; 3 hours laboratory work. Fee \$3.00. Text: Moore, *Materials of Engineering*. *S. H. Graf, C. E. Thomas*

MM 312. Materials of Construction. A course similar to MM 311 but including highway materials and some work on reinforced concrete.

Prerequisites: Same as for MM 311. Required in Civil Engineering; junior year; first term; 4 credits; 1 lecture; 6 hours laboratory work. Fee \$3.00. Text: Moore, *Materials of Engineering*.
S. H. Graf, C. E. Thomas

MM 313. Materials Testing Laboratory. Especially for students in Chemical Engineering, and for others desiring a general course dealing with a wide range of materials, methods, and equipment. The purpose is to cover those tests on materials which the industrial chemist in a commercial or city testing laboratory is required to make. Methods standardized by the American Society for Testing Materials and other recognized organizations are used throughout. The work includes tests on cement, bituminous and non-bituminous

road materials, structural materials, lubricating oils, and fuels.

Required in Chemical Engineering; junior year; first term; 2 credits; 1 three-hour laboratory period. Fee \$3.00. *C. E. Thomas*

MM 351. Mechanics. (Statics). Applied mechanics for engineering students; forces and force systems with reference to the equilibrium of rigid bodies, including simple framed structures; methods of finding centers of gravity and moments of inertia and their practical applications; numerous problems having engineering application.

Prerequisites: Differential and Integral Calculus. Required in Mechanical, Electrical, Civil, and Mining Engineering; junior year; first term; 3 credits; 3 recitations. Text: Poorman, Applied Mechanics. *S. H. Graf*

MM 352. Mechanics. (Dynamics). A continuation of MM 351 dealing with principles and problems in Kinetics; force as a factor causing motion; work, energy, friction, and impact studied and illustrated by means of numerous problems.

Prerequisite: MM 351. Required in Mechanical, Electrical, Civil, and Mining Engineering; junior year; second term; 3 credits; 3 recitations. Text: Poorman, Applied Mechanics. *S. H. Graf*

MM 353. Strength of Materials. In this course the general principles of mechanics are applied to the elements of engineering structures to determine their strength and fitness. Some of the features are tensile and crushing strength of various engineering materials; stresses in beams and girders under different systems of loading and support; supporting strength of columns; application of tension to shafts in transmission of power. Students are required to work and hand in problems.

Prerequisite: MM 352. Required in Mechanical, Electrical, Civil, and Mining Engineering; junior year; third term; 3 credits; 3 recitations. Text: Boyd, Strength of Materials. *S. H. Graf*

MM 421. Highway Inspection Methods. Designed for students who wish to engage in highway work as inspectors. The course includes lectures on the principles of inspection, sampling of materials, and operation of concrete and bituminous paving plants, and covers those field and laboratory tests necessary in the control of various types of road surfacing mixtures. Assigned readings. Laboratory reports.

Elective; second or third term as announced in schedule; 3 credits; 1 recitation or lecture; 1 three-hour laboratory period. Fee \$3.00. *S. H. Graf*

MM 426. Highway Materials Laboratory. Designed particularly for those specializing in Highway Engineering. Different road and

paving materials and binders are tested and their relative values determined. Sheet asphalt mixtures and bituminous mortars are studied to determine the effects of various changes in the grading of the aggregates. Finally, samples of various types of roads and pavements are analyzed for density, composition, and grading, with special reference to their conformity with specifications. Assigned references.

Required in Highway Engineering; senior year; second term; 3 credits; 1 lecture period; 2 laboratory periods. Fee \$3.00. Text: Hubbard, Laboratory Manual of Bituminous Materials. *S. H. Graf*

MM 427. **Structural Laboratory.** An advanced laboratory course on plain and reinforced beams and columns to study methods of reinforcing and to determine the value of the materials available; tests on the relative permeability of different mixtures, both plain and when treated with various water-proofing processes; on thermal conductivity of concrete; study of stresses in structures by strain gauge.

Prerequisites: To be approved. Required in Civil Engineering (Structural option); senior year; third term; 3 credits; 9 hours laboratory work. Fee \$3.00.

MM 481. **Metallography and Pyrometry.** Lectures and laboratory work designed to give a working knowledge of the methods of study of structure of metals and alloys; particular attention given to correlation of thermal and mechanical treatment with structure and physical properties of iron and steel; calibration and use of various types of pyrometers; laboratory experiments in heat treatment; preparation of specimens; etching; studying structure under the microscope; taking photomicrographs; physical tests, whenever possible, to show the effects on strength, ductility, hardness, or other mechanical properties of the different thermal treatments or other industrial processes.

Required in Chemical Engineering; elective to other suitably prepared students; senior year; third term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$3.00. Text: Sauveur, Metallography and Heat Treatment of Iron and Steel. *S. H. Graf*

MM 691, 692, 693. **Experimental Research Problems.** An opportunity is given for suitably prepared students interested in research to work out original problems. These may be either of their own choosing or suggested by the department, and may cover any subject within the scope of the department laboratories.

Prerequisites: Must be approved in each case, and will vary according to the work proposed. Elective to senior and graduate students; three terms; 3 credits each term; 9 hours laboratory work. Fee to be arranged. *S. H. Graf*

MECHANICAL ENGINEERING

The curriculum in Mechanical Engineering has for its purpose the preparing of young men for positions of usefulness and responsibility in the industrial life of the country. Instruction is given by means of lectures, recitations, and laboratory exercises. The scientific principles involved in machines, mechanical movements, and machine design are investigated and studied by solving numerous problems in class room and laboratory. The study of transformation of heat energy into power is taken up in early courses, where the student becomes familiar with the various types of engines by actual contact in the laboratory. At the same time the physical laws governing the principles of operation of engines and transformation of heat energy are explained in the lectures and illustrated by problems.

As the courses advance, the financial side of engineering is made the subject of special study and investigation and finally in the senior year the principles of efficiency and economy are embodied in the design of complete power plants.

Other technical subjects such as mechanics, surveying, hydraulics, and electrical machinery are included in the curriculum to give the student a general knowledge of engineering.

The basis courses of Mathematics, English, Chemistry, and Physics are required, as well as such subjects as Economics, Political Science, and Business Organization, in order that students may be prepared for useful citizenship as well as for engineering.

Equipment. The equipment of this department consists of drawing tables and drawing boards, blue-print room, and laboratory equipment in steam and gas engineering. The latter will be assembled in the new engineering laboratory building before the College opens in September.

The gas-engine laboratory contains some twenty engines, including examples of practically every type in use. A number of these are gasoline and kerosene four- and two-cycle engines, ranging in size from three to eighteen horse-power. Many of these engines are intended for practice in operation, repair work, and general maintenance, but all of the principal units are especially fitted for testing and experimentation.

The steam laboratory contains several steam boilers of different types, plain slide-valve, high-speed automatic, Corliss engine, and steam turbine; also pumps, injectors, and other auxiliary equipment. The laboratory courses teach the operation, care, and maintenance of power-plant equipment, as well as testing, power measurement, and economy.

The shop equipment used by engineering students is under the supervision of the department of Industrial Arts and includes machines and tools usually found in modern college shops.

COLLEGIATE COURSES

ME 101. Engineering Survey. The purpose of this course is to acquaint the student with the general field of activities in mechanical and electrical engineering. Attention is directed to methods of study and economical use of time in college work.

Required in Mechanical and Electrical Engineering; freshman year; second term; 1 credit; 1 lecture period.

ME 111. Mechanical Drawing. Use of instruments and elementary principles of mechanical drawing taught by a series of problems, emphasizing the following topics: types and methods of lettering; free-hand sketching and pictorial representation; orthographic projection; use of auxiliary and sectional views; development of surfaces and intersections.

Required in Electrical, Mechanical, Mining, and Chemical Engineering; first term; freshman year; 2 credits; 2 three-hour laboratory periods. Fee \$0.50. Text: French, Engineering Drawing.
M. Wenk

ME 112. Mechanical Drawing. Theory and problems on the conventional representation of bolts, nuts, screws, and other machine parts; free-hand sketches; detail and assembly drawings of machines; methods of dimensioning and checking; drawing of spur and bevel gears.

Required in Electrical, Mechanical, Mining, and Chemical Engineering; second term; freshman year; 2 credits; 2 three-hour laboratory periods. Fee \$0.50. Text: French, Engineering Drawing.
M. Wenk

ME 113. Descriptive Geometry. Theory and problems on the projection of points, lines, surfaces, and solids. An effort is made to make the work as practical as possible and to reveal to the student its relation to mechanical drawing and drafting-room problems.

Required in Electrical, Mechanical, and Chemical Engineering; third term; freshman year; 3 credits; 2 three-hour laboratory periods; 1 lecture. Fee \$0.50. Text: Ferris, Elements of Descriptive Geometry,
M. C. Phillips, M. Wenk

ME 121. Elements of Heat Engineering. An introductory course in the fundamental principles of heat engineering as applied to the

conversion of heat energy into mechanical energy, by means of expansion of vapors and gases; a study of fuels and combustion; laboratory practice in maintenance of engines and their repair.

Required in Mechanical Engineering; freshman year; first term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$1.50.

R. B. Boals

ME 122. Steam Engines. The elements of fuels; combustion; boilers and boiler auxiliaries; steam engines and turbines; flue-gas analysis and its application; practice in the operation of steam machinery; its adjustment and the diagnosis and correction of steam troubles; solution of problems in steam technic.

Required in Mechanical Engineering; freshman year; second or third term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$1.50.

R. B. Boals

ME 124. Gas Engines. Gas engine fuels; their combustion; construction of the various types of engines; carburetors and ignition systems; practice in the operation of gas engines; their adjustment; diagnosis and correction of engine troubles.

Required in Mechanical Engineering; freshman year; second or third term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$1.50.

R. B. Boals

ME 224. Gas Engines. The technic and practice of gas engines; including a study of the various types of gas-engine construction; their adaptability to practice; carburetors; ignition systems; liquid and gaseous fuels; combustion; practice in the maintenance and operation of gas engines; their adjustment and the correction of engine troubles.

Required in Electrical Engineering; sophomore year; first term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$1.50.

R. B. Boals

ME 221, 222. Heat Engineering. An advanced course in the study of the laws of transmission and transformation of heat; combustion; steam generation; gases and gas-engine cycles; vapors and vapor cycles; determination of cycle efficiencies; construction of boilers; engines; draft apparatus; condensers; turbines; valve gear; governors; laboratory practice in operation of power systems; their adjustment and the diagnosis and correction of power system troubles.

Required in Mechanical Engineering; sophomore year; second and third terms; 3 credits each term; 2 recitations; 1 three-hour laboratory period. Fee \$1.50 each term.

O. B. Goldman

ME 228. Steam Machinery. A study of solid fuels; their combustion; boilers and auxiliaries; simple, compound, and uni-flow engines; care and operation of steam machinery; its adjustment; flue-gas analysis and its application to practice.

Required in Electrical Engineering (sophomore year) and in Civil Engineering and Mining Engineering (junior year); second term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$1.50.

R. B. Boals

ME 311. Mechanism. A study of mechanical movements, including velocity, ratios, transmission of motion by link work, gearing, cams, and belting.

Required in Mechanical Engineering; junior year; first term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$0.50. Text: Keown, Elements of Mechanism.

M. C. Phillips

ME 312. Machine Design. Application of the principles discussed in Mechanism and in Mechanics to the design of machine parts; study of screws; shafting; belting; gearing; fly wheels; machine frames.

Required in Mechanical Engineering; junior year; second term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$0.50. Text: Kimball and Barr, Machine Design.

M. C. Phillips

ME 313. Machine Design. This course supplements and is directly dependent upon the work of ME 311 and 312. The work is taken up from a practical point of view and applies such theory as is consistent with the approved methods of design. Design and complete working drawings are made of machines.

Required in Mechanical Engineering; junior year; third term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$0.50.

M. C. Phillips

ME 315. Advanced Mechanical Drawing. A course in elementary machine design dealing with the design of simple installations and parts of machinery by means of standard handbooks and empirical formulas.

Required in Industrial Arts; senior year; second term; 3 credits; 3 laboratory periods.

M. C. Phillips

ME 329. Steam Turbines. Study of the various commercial types of impulse; reaction and mixed-flow turbines; turbo-generators; their method of governing; theory, efficiency, and construction; laboratory practice in their operation and adjustment, with especial reference to the requirements of the electrical engineer.

Required in Electrical Engineering; junior year; second term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$1.50.

O. B. Goldman

ME 331. Power Laboratory. Operation and testing of steam and gas machinery. Indicator practice, valve setting, mechanical efficiency, and economy tests.

Prerequisites: The completion of the required courses in Physics and Mathematics preceding. Required in Chemical Engineering; junior year; second term; 2 credits; 6 hours laboratory work. Fee \$3.00. Text: Moyer, Power Plant Testing. *L. R. Depperman*

ME 335, 336. Financial Engineering. Studies in cost segregation and cost analysis; determination of total annual production and true unit cost; analysis of system economy; determination of size and type of a system and number of units in a plant for best financial efficiency; determination of the comparative value of various types of equipment.

Required in Mechanical Engineering; junior year; second and third terms; 3 credits each term; 3 recitations. *O. B. Goldman*

ME 339. Steam Power Plants. A study of the composite steam-power plant, covering the assembly and coordination of the various units, coal-handling machinery for power plants, etc., with especial reference to their use in electrical generating and distributing systems, together with preliminary estimates and layout of such plants.

Required in Electrical Engineering; junior year; third term; 3 credits; 2 recitations; 1 three-hour drawing period.

O. B. Goldman

ME 413. Power Plant Design. The complete design and layout of power and refrigeration plants; coal-handling machinery; foundations and buildings, alone and in combination with other machinery, in accordance with best practice and from blue prints of actual power-plant machinery as built by the best American manufacturers.

Required in Mechanical Engineering; senior year; first and second terms; 2 credits each term; 2 three-hour drawing periods.

O. B. Goldman

ME 414. Power Plant Design. Continuation of ME 413.

Required in Mechanical Engineering; senior year; third term; 3 credits; 3 three-hour drawing periods.

O. B. Goldman

ME 421, 422. Power Plant Engineering. A course in the choice and coordination of power-plant machinery and its assembly; foundations; buildings; elevating and conveying machinery used in power plants; water-treating systems; the economics of power plants.

Required in Mechanical Engineering; senior year; first and second terms; 2 credits each term; 2 recitations. *O. B. Goldman*

ME 425. Refrigeration. Study of the laws of vapors and gases as applied to refrigeration; their cycles; construction and operation of refrigeration systems and structures; the economics of refrigeration systems.

Required in Mechanical Engineering; senior year; third term; 2 credits; 2 recitations. *O. B. Goldman*

ME 451. Steam Laboratory. A detailed study of steam power-plant equipment by the method of laboratory tests and analysis of test results. Various types of engines, boilers, pumps, and other steam equipment.

Prerequisites: Mathematics and Thermodynamics preceding this course in the Mechanical Engineering curriculum. Required in Mechanical Engineering; senior year; first term; 3 credits. Fee \$3.00. Text: Carpenter and Deidrichs, Experimental Engineering.

L. R. Depperman

ME 461. Gas Engine Laboratory. A continuation of ME 451 extending the field of study into gas power and pneumatic equipment. The types of engines tested include stationary and automobile gasoline engines, kerosene and oil engines, and semi-Diesel heavy oil engines. Fans and air compressors are also covered in this course.

Required in Mechanical Engineering; senior year; second term; 3 credits; 9 hours laboratory work. Fee \$3.00. Text: Carpenter and Diedrichs, Experimental Engineering.

L. R. Depperman

ME 465. Heating and Ventilating. Study of modern methods of heating and ventilation; approved systems of heating by means of air, steam, and hot water; methods of computing radiating surface; effective methods of ventilation; general design; construction and operation of heating plant.

Required in Mechanical Engineering; senior year; 3 credits; 1 recitation; 2 three-hour laboratory periods. Text: Hoffman, Heating and Ventilating. Fee \$0.50.

M. C. Phillips

ME 481, 482, 483. Seminar. Practice in effective writing and speaking on engineering and allied subjects. Preference is given to the discussion of any new developments in the field of Mechanical Engineering.

Required in Mechanical Engineering; senior year; 1 credit each term; 1 recitation. *O. B. Goldman*

VOCATIONAL COURSES

ME 11. Vocational Drawing. Course ME 111 simplified for those students who have not had high-school drawing.

Required in Vocational Curriculum in Mechanic Arts; first term; 2 credits; 2 three-hour laboratory periods. Fee \$0.50. Text: French, Engineering Drawing. *H. C. Brandon*

ME 12. Vocational Drawing. Theory and problems in conventional representation of bolts, nuts, screws, and other machine parts; drawings of simple machines.

Required in Vocational Curriculum in Mechanic Arts; second term; 2 credits; 2 three-hour laboratory periods. Fee \$0.50. Text: French, Engineering Drawing. *H. C. Brandon*

ME 13. Vocational Drawing. Practical machine drafting including free-hand drawing, assembly and detail drawings of machines such as are built at the College shops; methods of dimensioning and checking. Advanced students will have work in gearing.

Required in Vocational Curriculum in Mechanic Arts; third term; 2 credits; 2 three-hour laboratory periods. Fee \$0.50. *H. C. Brandon*

SCHOOL OF FORESTRY

WILLIAM JASPER KERR, D.Sc., President of the College.
GEORGE WILCOX PEAVY, M.S.F., Dean of the School of Forestry.
CARRIE BAILEY, Secretary to the Dean.

HAROLD STEPHENSON NEWINS, M.F., Associate Professor of Forestry.

Since Oregon is the foremost timber state in the Union, having one-fifth of the uncut timber of the country, a distinct responsibility rests upon the commonwealth to see to it that the great timber wealth is conservatively managed and harvested. The function of the School of Forestry is to aid in the accomplishment of these results.

The work of the School of Forestry is divided into two distinct branches. One deals with the production and protection of the forest crop, while the other deals with harvesting the mature timber.

Technical Forestry. Within the past decade the American forester has won notable recognition, and the profession of forestry has made a wonderful growth. The Federal Government has set aside one hundred fifty-six million acres of forest land to be permanently devoted to growing timber. In Oregon an area of thirteen million acres lies within the National Forests, while an area of eleven million acres is privately owned. Since it is suited only to growing timber, much of the privately owned land will eventually be brought under some form of management so that it can be made permanently productive. This indicates the field of the technical forester. His business is to see to it that this vast area is brought to its highest degree of productiveness and kept there.

Logging Engineering. The logging engineer is a recent development of the Pacific Northwest. In the past, low prices for standing timber, easy logging, and the high prices for lumber have made profits to the lumberman sure, and these same conditions have not demanded economy in operation. With high-priced stumpage, timber difficult of access, and low prices for lumber, a revolution in the entire lumber industry is being forced. It has become a case of economy in operation or financial failure. Bringing the logs over rough country to the mill involves many engineering problems. Among these are the construction of logging railroads, the installation of efficient sky-line and ground-logging devices, and the opera-

tion of special steam and electrical logging equipment. The curriculum in Logging Engineering is designed to equip young men to be of use in this field. The curriculum as outlined in this catalogue was prepared under the direction of some of the ablest timbermen in the Pacific Northwest, and the strictly technical subjects in the curriculum are taught by men who have had practical experience in some of the most progressive logging operations in the country.

Forestry Short Course. A short course in Forestry for the assistance of men in practical work who do not have the time to devote to a full course or who do not have the necessary preparation for regular degree work, is given during the second term, January 3 to March 18. Effort is made in this short course to fit the work, as far as practicable, to the needs of the individual.

Equipment. The School of Forestry is now provided with suitable space in which to do its work. A three-story building, eighty feet wide and one hundred thirty-six feet long, has been constructed to house the work in Forestry. This building contains roomy laboratories for work in silviculture, dendrology, mensuration, forest protection, timber technology, drafting, timber grading, and logging devices and equipment. Through the kindness of the manufacturers of logging equipment and lumber manufacturing concerns, much valuable material has been assembled for demonstration purposes. In addition to the laboratories, class rooms, and offices, space is devoted to a collection of manufactured wood products, designed to show the various uses to which wood may be put, and to educate students in the proper utilization of Oregon's greatest natural resources. All available publications dealing with general forestry, logging, or lumber manufacture are provided for the use of students.

DEGREE CURRICULUM IN GENERAL FORESTRY

The following courses are recommended for freshman and sophomore students who desire to work for a degree either in General Forestry or in Logging Engineering. For graduation the College requires the student to complete 201 credits. The student is expected to complete the professional work as outlined below. Other subjects may be substituted only upon the approval of the Dean. Freshman and sophomore requirements are modified only in exceptional cases.

Freshman Year

| | 1st | Term 2d | 3d |
|---|------------------------|------------------------|------------------------|
| General Forestry, F 111, 112 | 5 | 3 | |
| Elementary Mensuration, F 123 | | | 4 |
| English Composition, Eng 101, 102 | 3 | 3 | |
| Plane Trigonometry, Elementary Analysis, Mth 111, 131, 132 | 4 | 4 | 4 |
| * General Chemistry, Ch 101, 102, 103 | 3 | 3 | 3 |
| Plane Surveying, CE 124, 125 | | 2 | 4 |
| Gymnasium, PE 111, 112, 113 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ |

Sophomore Year

| | | | |
|--|------------------------|------------------------|------------------------|
| Mensuration, F 221 | 4 | | |
| Advanced Mensuration, F 222 | | 4 | |
| Tree Identification, F 253 | | | 5 |
| Forest Mapping, F 224 | | 3 | |
| Principles of Economics, ES 203 | 3 | | |
| Labor Problems, ES 301 | | | 3 |
| Engineering Physics, Ph 111, 112, 113 | 3 | 3 | 3 |
| Topographic Surveying, CE 222 | 5 | | |
| Railroad Surveying, CE 223, or Forest Protection, F 212 | | 5 | |
| Practical Public Speaking, Eng 251 | | | 3 |
| Gymnasium, PE 211, 212, 213 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 1 | 1 | 1 |
| Elective | | | 1 |
| | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ |

* Asterisks indicate courses for which substitutions may be made with the approval of the Dean of the School.

The following courses are recommended for junior and senior students who are working for a degree in General Forestry.

Junior Year

| | 1st | Term 2d | 3d |
|--|----------|------------|----------|
| Identification of Woods, F 331 | 4 | | |
| Forest Administration, F 311 | 3 | | |
| Silviculture, F 342, 343 | | 4 | 4 |
| Uses of Wood, F 332 | | 3 | |
| Forest Appraisals and Reports, F 313 | | | 5 |
| Advanced Business Law, PS 201, 202 | 4 | 4 | |
| Introduction to Accounting, BA 231 | | | 3 |
| Comparative Governments, PS 401 | 4 | | |
| Forest Entomology, Ent 321 | | 4 | |
| Advanced Forest Mapping, F 326 | | | 3 |
| Military Science and Tactics | 2 | 2 | 2 |
| | <hr/> 17 | <hr/> 17 | <hr/> 17 |

Senior Year

| | | | |
|---|----------|----------|----------|
| Forest Finance, F 411, 412 | 5 | 5 | |
| Economics of Lumber Industry, F 413 | | | 5 |
| Dendrology, F 451, 452 | 5 | 5 | |
| Forest Management, F 416 | | | 5 |
| Timber Technology, F 431, 432 | 4 | 3 | |
| Forest Engineering, F 473 | | | 5 |
| Log Scaling, F 421 | 3 | | |
| Seminar, F 462, 463 | | 1 | 2 |
| Materials of Engineering, MM 311 | | 3 | |
| | <hr/> 17 | <hr/> 17 | <hr/> 17 |

DEGREE CURRICULUM IN LOGGING ENGINEERING**Freshman and Sophomore Years**

The work for these years is the same as that for the corresponding years in the General Forestry Curriculum.

The following courses are recommended for junior and senior students who are working for a degree in Logging Engineering.

Junior Year

| | 1st | Term 2d | 3d |
|--|-----|------------|----|
| Logging Devices and Equipment, LE 481, 482.... | 4 | 4 | |
| Logging Machine Design, LE 483 | | | 4 |
| Forest Appraisals and Reports, F 313 | | | 5 |
| Identification of Woods, F 331 | 3 | | |
| Uses of Wood, F 332 | | 4 | |
| Advanced Business Law, PS 201, 202 | 4 | 4 | |
| Machine Shop, IA 363 | | | 3 |
| Comparative Governments, PS 401 | 4 | | |
| Steam Machinery, ME 228 | | 3 | |
| Introduction to Accounting, BA 231 | | | 3 |
| Military Science and Tactics | 2 | 2 | 2 |
| | — | — | — |
| | 17 | 17 | 17 |

Senior Year

| | | | |
|--|----|----|----|
| Timber Transportation, LE 371, 372, 373..... | 4 | 4 | 5 |
| Forest Finance, F 411, 412 | 5 | 5 | |
| Economics of Lumber Industry, F 413 | | | 5 |
| Logging Devices and Equipment, Topographic Logging Plans, LE 481, 482 | 5 | 4 | |
| Log Scaling, F 421 | 3 | | |
| Materials of Engineering, MM 311 | | 3 | |
| Logging Methods, LE 493 | | | 3 |
| Lumber Manufacture, LE 496 | | | 3 |
| Seminar, F 462, 463 | | 1 | 1 |
| | — | — | — |
| | 17 | 17 | 17 |

GENERAL FORESTRY

COLLEGIATE COURSES

F 111. General Forestry. Preliminary survey of the whole field of forestry; origin and progress of scientific forestry; economic necessity of forestry; present forest wealth and possibilities of increasing it; forest ownership, private, state, and national; preliminary survey of state and national forest laws and policies; outline of national forest organization.

Required in Forestry and Logging Engineering; freshman year; first term; 5 credits; 5 lectures and recitations. Reference text: Moon and Browne, *Elements of Forestry*. *G. W. Peavy*

F 112. General Forestry. Responsibility of civilized man for the conservation of natural resources; vital interests of this Nation in its timber, coal, iron, oil, water, etc.; methods of insuring longest and best use of natural resources; conservation legislation.

Required in Forestry and Logging Engineering; freshman year; second term; 3 credits; 3 lectures and recitations. Reference text: Van Hise, *Conservation of Natural Resources*. *G. W. Peavy*

F 123. Elementary Mensuration. Federal survey system; identification of corners and lines; methods of covering the ground in timber cruising; pacing; instruments and devices used in measuring diameters and heights of trees; units of timber measurement; contents of felled timber; scale rules; simple plane table work.

Required in Forestry and Logging Engineering; freshman year; third term; 4 credits; 3 recitations; 1 three-hour laboratory period. Fee \$2.00. Reference text: U. S. Manual of Public Land Surveys.

F 212. Forest Protection. Protecting forests from fire; Federal, state, and private agencies; methods and equipment of prevention and control; forest insect control; forest pathology.

Elective in Forestry and Logging Engineering; sophomore year; second term; 5 credits; 5 lectures and recitations. *H. S. Newins*

F 221. Mensuration. Topographic surveying of forested areas as basis for timber appraisal; keeping field notes; traversing; practice in surveying with aneroid barometer with the use of barograph as a checking instrument; execution of public land surveys; retracing surveyed lines in timber; section subdivisions.

Required in Forestry and Logging Engineering; sophomore year; first term; 4 credits; 3 recitations; 1 three-hour field or laboratory period. Fee \$2.00.

F 222. Advanced Mensuration. Volume tables and form factor tables for timber estimating; growth studies; yield tables; com-

plete valuation surveys including application of methods; comparison between values derived in logging and mill cuts and estimates of standing timber; field work at the mills and in the woods; complete valuation survey and report on a given piece of timber; advanced work in the execution of topographic surveys on timbered areas; costs.

Required in Forestry and Logging Engineering; sophomore year; second term; 4 credits; 3 recitations; 1 three-hour field period. Fee \$2.00. Reference text: Graves, Forest Mensuration.

F 224. Forest Mapping. Drill in detail of forest mapping; lettering and conventional signs; crayon and ink colorings in Forest Service and other standard legend; making of final reconnaissance and land classification maps; finishing maps; relief maps from topographic data; free-hand field sketching.

Required in Forestry and Logging Engineering; sophomore year; second term; 3 credits; 3 two-hour laboratory periods. Fee \$2.00.

F 253. Tree Identification. Field Characteristics and classification of timber trees of United States; their commercial range, local occurrence, size, growth, form, climate, soil, and moisture requirements; resistance; relative tolerance and reproduction. The fundamental purpose is to teach the student to identify commercial timber trees.

Required in Forestry and Logging Engineering; sophomore year; third term; 5 credits; 3 lectures; 3 three-hour laboratory or field periods. Fee \$2.00. Reference text: Sudworth, Trees of the Pacific Slope.

F 311. Forest Administration. Federal forests; Forest Service organization; national supervision; the district; the forest as an administrative unit; administration of state forests; private forests; discussion of fire prevention and control methods.

Required in Forestry; junior year; first term; 3 credits; 3 lectures and recitations.

F 313. Forest Appraisals and Reports. Commercial timber land examinations as made by commercial cruising companies; cruising methods required by bonding companies, bankers, purchasers, and operators; reports on such examinations; cruising methods and their relative merits; field work and report on a problem of practical value to some logging concern.

Required in Forestry and Logging Engineering; junior year; third term; 5 credits; 3 lectures; 2 three-hour field or laboratory periods. Fee \$3.00.

F 316. Efficiency Systems. General discussion of efficiency systems; special application to lumber industry; cost-keeping systems and their comparative values; organization; cost keeping versus bookkeeping; bonus, merit, profit-sharing, and piece systems; labor problems as applied to logging industry; present-day labor management as practiced in modern logging operations.

Elective in Logging Engineering; junior year; third term; 5 credits; 5 lectures. Fee \$4.00.

F 326. Advanced Forest Mapping. Construction of topographic maps from data obtained by students in the field; trail tape, Abney hand level, aneroid and Forest Service compass used in securing field data; construction of relief maps; drill in lettering and finishing maps.

Required in Forestry; junior year; third term; 3 credits; 3 two-hour laboratory or field periods. Fee \$2.00.

F 331. Identification of Woods. Identification of important commercial woods; physical and structural properties; study of standard commercial grading rules; practical work in grading manufactured lumber.

Required in Forestry and Logging Engineering; junior year; first term; 4 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$2.00. Reference text: Record, Economic Woods.

F 332. Uses of Wood. Study of wood structure; adaptation to commercial uses; chief wood-using industries and relative amounts of principal commercial species used annually; adaptation of wood to special purposes; substitutes for wood; minor uses of wood, pulp, fiber, board, etc.; by-products.

Required in General Forestry and Logging Engineering; junior year; second term; 3 credits; 2 lectures; 1 two-hour laboratory period. Fee \$2.00. Reference text: Kellogg, Lumber and Its Uses.

F 334. Commercial Woods. Designed primarily to meet requirements of the woodworker in choosing species of wood best adapted to his needs, and in identifying woods commonly used; macroscopic and microscopic identification of different species; dendrology and its significance in wood technology; taxonomy, showing how trees are classed.

Required in Industrial Arts; junior year; third term; 3 credits; 2 lectures; 1 two-hour laboratory period. Fee \$2.00. *H. S. Newins*

F 342. Silviculture. Art of establishing, developing, and reproducing trees; forest description; silvicultural system of cutting; marking trees for cutting; silvicultural management; improvement of woodlands; protection as related to silviculture; natural and artificial regeneration; nursery practice; planting.

Required in Forestry; junior year; second term; 4 credits; 3 recitations; 1 two-hour laboratory period. Fee \$2.00. Reference texts: Graves, Handling of Woodlands. Toumey, Seeding and Planting.

F 343. **Advanced Silviculture.** Practice of Forestry in silvicultural regions of the United States; forest ecology; silvics, including the measure of tolerance, study of sample plots, economic possibilities of species, and reproduction characteristics; detailed silvical study of some definite forest tract.

Required in Forestry; junior year; third term; 4 credits; 3 recitations; 1 two-hour laboratory period. Fee \$2.00. Reference text: Toumey, Seeding and Planting.

F 37X. **Field Work.** Based upon practical work performed by the student between the sophomore and junior years or between the junior and senior years. Work must be done on some modern logging operation or in connection with some technical forestry work carried on by the State or by the Forest Service. A report based upon an approved outline must be submitted.

Elective in Forestry and Logging Engineering; junior or senior year; 1 to 6 credits.

F 411, 412. **Forest Finance.** Investments and costs in forest production; value of forest property for destructive lumbering and for continued timber production; appraisal of damages due to the destruction of forest property; forest taxation; stumpage values; comparison of forest values with agricultural values; timber bonds; ultimate ownership of forest lands.

Required in Forestry and Logging Engineering; senior year; first and second terms; 5 credits each term; 5 lectures and recitations. Reference text: Chapman, Forest Valuation. *G. W. Peavy*

F 413. **Economics of the Lumber Industry.** Brief history of lumbering in the United States; stumpage prices; prices of manufactured lumber; shifting centers of production; transportation; freight rates; the Interstate Commerce Commission and the lumber industry; substitutes and their effects; lumbermen's associations; present rate of consumption and the future supply; function of the Government in the future of the industry.

Required in Forestry and Logging Engineering; senior year; third term; 5 credits; 5 lectures and recitations. *G. W. Peavy*

F 416. **Forest Management.** Fundamental principles of mensuration, finance, organization, and administration reviewed and placed

in their proper relationship to the whole scheme of forest management; emphasis on the study of sustained yield, regulation of cut, and on working plans.

Required in Forestry; senior year; third term; 5 credits; 4 lectures; 1 two-hour conference period. *H. S. Newins*

F 421. Log Scaling. Log scaling in the United States generally and in the Pacific Northwest and British Columbia in particular; theory of board measure; merits and demerits of scale rules; allowances for log defect; records; scaling with reference to log grades as practiced on the Pacific Coast in different kinds of timber; rules governing the scale of logs in different districts; rules of log scaling and grading bureaus; scaling at mills and logging camps; laws governing scaling.

Required in Forestry and Logging Engineering; senior year; first term; 3 credits; 2 lectures; 1 three-hour field period. Fee \$2.00.

F 431. Timber Technology. Fundamental principles underlying seasoning and kiln drying of woods; kiln drying methods and their relative merits; effect of kiln drying upon wood structure; preservative treatment of timber, methods and results; manufacture of alcohol, turpentine, resin, tar, and other chemical products from wood; closer utilization of wood waste.

Required in Forestry; senior year; first term; 4 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$3.00.

F 432. Timber Technology. A continuation of F 431.

Required in Forestry; senior year; second term; 3 credits; 2 lectures; 1 two-hour laboratory period. Fee \$2.00.

F 451, 452. Dendrology. Classification and identification of forest trees, including study of forest ecology and taxonomy; silvical characteristics and commercial species; life-history and requirements of trees.

Required in Forestry; senior year; first and second terms; 5 credits each term; 3 recitations; 2 two-hour laboratory periods. Fee \$2.00 each term. Reference texts: Sudworth, *Trees of the Pacific Slope*. Sargent, *Trees of North America*.

F 462. Seminar. Preparation and discussion of reports of special subjects; current forestry and lumbering literature; labor problems. Each student is required to prepare a report on some assigned subject.

Required in Forestry and Logging Engineering; senior year; second term; 1 credit; 1 two-hour conference period.

G. W. Peavy

F 463. Seminar. Continuation of F 462.

Required in Forestry and Logging Engineering; senior year; third term; 2 credits; 2 two-hour conference periods. *G. W. Peavy*

F 473. Forest Engineering. Trail and road construction under forest conditions; telephone systems adapted to forest administration rangers' buildings; lookout stations; fire finding appliances; advanced problems in topographic and relief map construction.

Required in Forestry; senior year; third term; 5 credits; 4 lectures; 1 two-hour laboratory period. Fee \$3.00.

VOCATIONAL COURSES

F 11. Forest Protection. Causes of forest fires; methods of controlling forest fires; proper organization of fire patrol over definite areas; fire fighting devices; lookout stations, telephone lines, roads, and trails, with reference to fire control; different methods applicable to different regions.

Forester's Short Course; second term; 4 credits; 4 recitations.

F 16. Forest Administration. The organization of the Federal Forest Service; the District office; the National Forest; the State Forester's office; organization of the State work; forms used in the transaction of forest business; the preparation of reports.

Forester's Short Course; second term; 3 credits; 3 recitations.

F 21. Forest Measurements. Fundamental principles involved in computing the solid contents of logs and trees; method of constructing scale rules; height measures; forest service methods of cruising timber; other methods; discounts for defects; volume tables; practical demonstrations in the woods.

Forester's Short Course; second term; 4 credits; 2 recitations; 2 laboratory periods. Fee \$2.00.

F 24. Forest Surveying and Mapping. A study of the United States system of land surveys; retracing surveyed lines; methods employed in marking surveyed lines; use of the compass, the surveyor's chain, plane table, Abney hand level; practical field work in surveying; use of the aneroid barometer in topographic surveying; details of map making; conventional signs used in mapping.

Forester's Short Course; second term; 5 credits; 2 recitations; 3 laboratory periods. Fee \$2.00.

LOGGING ENGINEERING

COURSES

LE 37X. **Field Work.** Same as F 37X, page 232.

LE 371. **Timber Transportation.** Horse logging; chute and flume construction; pole roads; railroads adapted to logging operations.

Required in Logging Engineering; senior year; first term; 4 credits; 2 lectures; 2 three-hour laboratory periods. Fee \$4.00.

LE 372. **Timber Transportation.** Distinction between logging railroads and common carrier railroads; grades; alignment; railroad operation as applied to logging railroads; economic theory of location and construction.

Required in Logging Engineering; senior year; second term; 4 credits; 2 lectures; 2 three-hour laboratory periods. Fee \$4.00. Reference text: Wellington, Economic Theory of Railway Location.

LE 373. **Timber Transportation.** Structures and materials used in logging railroads, costs of surveys, construction, operation and maintenance; bridge and tunnel construction. Economics of construction and operation; financing and management; log driving; rafting.

Required in Logging Engineering; senior year; third term; 5 credits; 3 lectures; 2 three-hour laboratory periods. Fee \$4.00.

LE 471, 472. **Topographic Logging Plans.** Plans for logging operations; making topographic map of timbered area; timber cruised and complete set of plans worked out, showing proper location of main-line logging railroads, railroad spurs, rollways or landings, pole roads, swing settings, logging area lines; estimates of costs.

Required in Logging Engineering; senior year; first and second terms; 5 credits each term; 3 recitations; 2 three-hour field periods. Fee \$5.00 each term.

LE 481. **Logging Devices and Equipment.** Flume and chute construction; rigging; types of railroad locomotives, logging cars, and trucks; donkey engines; skidding and loading devices; camp buildings, shops, dwellings; machine-shop machinery and tools; woods tools; railroad-track equipment and fixtures; oil, grease, packing and waste; water-supply systems; explosives; construction equipment; boilers, aerial tramways, snubbing devices; incline railroads; blocks and hooks, wire rope, logging dams, electrical ma-

chines used in logging; detailed investigation of costs and makes of equipment; aerial and high lead systems; economic value of using efficient equipment.

Required in Logging Engineering; senior year; first term; 4 credits; 2 lectures; 2 three-hour laboratory periods. Fee \$4.00.

LE 482. Logging Devices and Equipment. A continuation of LE 481.

Required in Logging Engineering; senior year; 3 credits; 2 lectures; 1 two-hour laboratory period. Fee \$3.00.

LE 483. Logging Machine Design. Designing logging equipment and rigging and tools; instruction in preparation of working plans for machine shop and foundry construction; making drawings of standard woods tools and railroad equipment constructed in mill and camp shops.

Required in Logging Engineering; senior year; third term; 5 credits; 2 lectures; 3 two-hour laboratory periods. Fee \$4.00.

LE 493. Logging Methods. Yarding, skidding, and loading of logs by all known methods; falling and bucking; relative merits of various methods; all known methods of handling timber from the standing tree to the mill.

Required in Logging Engineering; senior year; third term; 3 credits; 3 lectures.

LE 496. Lumber Manufacture. Discussion of various types of modern mills; manufacture of secondary products; electrical versus steam mills; lumber-handling devices; examinations of up-to-date mills and reports on them.

Required in Logging Engineering; senior year; third term; 3 credits; 2 lectures; 1 two-hour laboratory period.

SCHOOL OF HOME ECONOMICS

WILLIAM JASPER KERR, D.Sc., President of the College.

AVA BERTHA MILAM, Ph.B., A.M., Dean of the School of Home Economics.

ZELTA FERN FEIKE, B.S., Secretary to the Dean.

HELEN LEE DAVIS, A.B., B.S., Professor of Household Art.

ALMA GRACE JOHNSON, B.S., Professor of Household Administration.

SARAH LOUISE LEWIS, M.S., Professor of Household Science.

BERTHA STEWART DAVIS, M.S., Associate Professor of Home Economics Education.

HATTY ROSELLE DAHLBERG, B.S., A.M., Assistant Professor of Home Economics Education.

LILA MORRIS O'NEALE, A.B., B.S., Assistant Professor of Household Art.

SIBYLLA HADWEN, Housekeeper Women's Dormitories; Preceptress, Waldo Hall.

KATHERINE BARBARA HAIGHT, R.N., Instructor in Household Administration.

* LAURA JEAN CHENEY, B.S., M.A., Instructor in Household Science.

MARGARET MOREHOUSE, B.S., Instructor in Household Art.

LOUISE ALBERTA SCHNEIDER, Instructor in Household Art.

SARA WATT PRENTISS, B.S., Instructor in Household Administration.

LURA AMELIA KEISER, B.S., Instructor in Home Economics Education.

MARY VAN KIRK, Instructor in Household Art.

ALMA CATHERINE FRITCHOFF, A.B., Instructor in Household Art.

EMMA SKINNER WELD, Ph.B., Instructor in Household Administration.

MARGARET WINNONA CRUISE, A.M., Instructor in Household Science.

HELEN McFAUL, B.A., Instructor in Household Art.

KATHERINE McFARLAND, B.S., Instructor in Household Science.

LULA LITTEN MAY, B.S., Instructor in Household Art.

GERTRUDE STRICKLAND, B.S., Instructor in Household Art.

LILLIAN TAYLOR, B.S., Instructor in Household Art.

The School of Home Economics offers the following curricula: two four-year curricula each leading to the degree of Bachelor of Science, with majors in Household Science, Household Art, Household Administration, Institutional Management, Applied Design, and Home Economics Education; a graduate curriculum leading to the degree of Master of Science; a one-year curriculum for dietitians; a one-year homemakers' curriculum; and six-week courses for teachers, offered in the Summer Session.

* On leave of absence.

Fundamentally, the young women in the School of Home Economics are offered such training as will help them to adjust themselves readily to their environment. That the young women completing this work may be good citizens as well as good homemakers, the curricula in the School of Home Economics have been planned to give a liberal as well as a technical education.

Opportunities for teaching Home Economics in high schools and colleges; in the grade schools of cities; in the consolidated community schools of progressive rural communities; and in Smith-Hughes full-time, part-time, and continuation schools, are constantly increasing and becoming more desirable. Facilities for specializing in this work at the College are therefore given special attention. Many opportunities are open to mature women capable of solving the problems of good food service for large numbers of people, and for experts in the management of large institutions. Equally attractive opportunities are available for the expert needlewoman, the tasteful designer of gowns, the competent dressmaker or milliner, the ladies' tailor, buyers and testers of textile materials, and the woman with artistic resources as a household decorator and furnisher.

More and more the life of the modern community is dependent upon institutions. Women are rapidly entering upon service as executive and administrative leaders in the important functions of these institutions. Hospitals, institutional homes, educational institutions, and social centers are increasingly demanding the services of mature women of skilled technical accomplishments. There is a growing demand for dietitians in hospitals and large institutions, in the Red Cross service, and as managers of cafeterias and tea-rooms. The training in dietetics, catering and management offered the young women by the School of Home Economics, gives both liberal and practical preparation for such service. The textile and clothing courses, together with art and science training, give a good foundation for various lines of laboratory, research, testing, buying, and inspecting work.

With the establishment of the College Practice House, Household Administration is being more effectively taught than was formerly possible. Institutional Management is being developed by practical work given in tea-room management, catering, and dormitory practice.

Quartered in a new building, provided with a thoroughly modern heating, ventilating, and sanitary system, and equipped with the most approved facilities for conducting the work of the various departments, the School of Home Economics is in a very fortunate position for making its courses of the utmost value, not only to its

resident students, but to the communities of the State at large wherever its extension activities may penetrate.

Requirements for Graduation. For the bachelor's degree in Home Economics, a minimum of 192 college credits must be completed. The subjects required in the freshman and sophomore years are prescribed. The subjects for the junior and senior years are in part prescribed, the remaining credits being elective.

Degree Curricula in Home Economics. The School of Home Economics offers two main curricula leading to the bachelor's degree:

I. A Professional Curriculum, including principally technical courses, for those desiring not only preparation for homemaking, but also to qualify for positions as teachers of Household Science and Household Art, extension workers, or institutional managers. The first two years, as prescribed, give the necessary foundation for any one of these occupations; the junior and senior years are in part elective, making possible specialization in any one of these departments. The required and elective courses are so adjusted that the student may obtain thorough technical preparation and at the same time benefit by the broad training which any undergraduate course of study should afford. This curriculum fulfills the requirements of the State Board for Vocational Education for the training of Smith-Hughes teachers.

II. A General Curriculum, less severely technical, and allowing for liberal electives, for those desiring preparation in the problems of homemaking, together with considerable freedom in electing courses in other fields.

Dietitians' Curriculum. This one-year curriculum is intended for women who desire adequate training for positions as dietitians in hospitals; in other institutions under state, county, charitable, or private management where large numbers of people are housed and fed, or under military or Red Cross auspices. Students matriculating for this course must be at least twenty-five years of age, and graduates of a four-year high-school course of study or its equivalent. To secure a dietitian's certificate fifty credits are required, including three months of practical field work.

Homemakers' Curriculum. The one-year Homemakers' Curriculum, established in 1914, is provided especially for those women whose schooling may not qualify them to enter the degree curricula, or whose duties demand that they content themselves with a brief period of training for their life work, or whose aim in seeking training at the College is exclusively practical. The purpose of the other short courses in Home Economics is quite similar to this; to provide, in the short time assigned to the particular courses, the fullest and most fruitful training that it is possible to offer with the

facilities of a thoroughly modern School of Home Economics; and to present this training in such a way that it shall be most immediately and constructively helpful to the particular patrons of the given courses. The detailed outlines of short courses in Home Economics other than the one-year Homemakers' Curriculum are presented in the special bulletins issued for the Winter Short Course and the Summer Session.

Admission to any of the Homemakers' courses demands the educational qualification of an eighth-grade or common-school course; in cases of mature persons, otherwise capable of carrying on the work, even this qualification may be waived.

PROFESSIONAL CURRICULUM IN HOME ECONOMICS

Freshman Year

| | 1st | Term 2d | 3d |
|--|-----|------------|----|
| General Chemistry, Ch 101, 102, 103 | 3 | 3 | 3 |
| Clothing and Textiles, HA 111, 112, 113 | 4 | 4 | 4 |
| English Composition, Eng 101, 102, 103 | 3 | 3 | 3 |
| Drawing, Design, Theory and Harmony of Color, A 110, 120, 130 | 4 | 4 | 4 |
| Hygiene, PEw 121 | 1 | | |
| Introduction to Home Economics, HAd 100 | | 1 | |
| Library Practice, Lib 100 | | | 1 |
| Gymnasium, PEw 111, 112, 113 | 1 | 1 | 1 |
| | — | — | — |
| | 16 | 16 | 16 |

Sophomore Year

| | | | |
|--|----|----------|----|
| Organic Chemistry, Ch 221 | 5 | | |
| Chemistry of Foods and Digestion, Ch 222 | | 5 or (5) | |
| Household Physics, Ph 200 | | (5) or 5 | |
| Home Economics Botany, Bot 201 | 3 | | |
| General Bacteriology, Home Economics Bacteri- ology, Bac 204, 205 | | 3 | 3 |
| Foods and Cookery, HS 211, 212, 213 | 4 | 4 | 4 |
| * English or Modern Language | 3 | 3 | 3 |
| Gymnasium, PEw 211, 212, 213 | 1 | 1 | 1 |
| | — | — | — |
| | 16 | 16 | 16 |

* If a modern language is elected, two years of one language will be expected.

Junior Year

| | 1st | Term 2d | 3d |
|--|----------|------------|----------|
| General Psychology, Psy 307 | 3 | | |
| General Physiology, ZP 321 | 5 | | |
| Housewifery, HAd 310 | 3 | | |
| Costume Design, HA 331 | 3 | | |
| Introduction to Economics, ES 391 | | 3 | |
| Advanced Clothing and Textiles, HA 311 | | 5 | |
| Sanitation and Public Health, HAd 300 | | 3 | |
| Child Care, HAd 320 | | | 3 |
| Dietetics, HS 320 | | | 5 |
| Business Management for Women, BA 371 | | | 3 |
| Electives | 2 | 5 | 5 |
| | <hr/> 16 | <hr/> 16 | <hr/> 16 |

Senior Year

| | | | |
|---|----------|----------|----------|
| Introduction to Sociology, ES 393 | 3 | | |
| Home Nursing, HAd 430 | 3 | | |
| National Government, PS 301 | | 3 | |
| House Decoration, HA 431 | | 3 | |
| Ethics, Eth 482 | | | 3 |
| Advanced Textiles, HA 316 | | | 3 |
| Electives | 10 | 10 | 10 |
| | <hr/> 16 | <hr/> 16 | <hr/> 16 |

Students training for extension work should elect Rural Sociology, Public Speaking, Methods of Demonstration, Vegetable Gardening, Poultry Raising, etc.

Twenty-two and one-half credits in Education are required for a teaching certificate in Oregon. Students planning to teach in Smith-Hughes schools must have 12 instead of 6 weeks of practice teaching. Practice Housekeeping (HAd 450) and Household Management (HAd 440) are required of prospective Smith-Hughes teachers.

SUGGESTED ELECTIVES

| | |
|---|---|
| ES 101, Commercial Geography | 4 |
| ES 111, Economic History of Europe | 4 |
| ES 201, Economic History of United States | 3 |
| PS 402, International Relations | 4 |
| IJ 200, Elementary Industrial Journalism | 3 |
| Eng 251, Practical Public Speaking | 3 |

SUGGESTED DEPARTMENTAL COMBINATIONS

HOUSEHOLD ADMINISTRATION

| Major | | Minor | |
|--|----|--|----|
| HAd 100 Intro. to H. Econ..... | 1 | HAd 100 Intro. to H. Econ..... | 1 |
| HAd 300 Sanitation and Public Health | 3 | HAd 300 Sanitation and Public Health | 3 |
| HAd 310 Housewifery | 3 | HAd 310 Housewifery | 3 |
| HAd 320 Child Care | 3 | HAd 320 Child Care | 3 |
| HAd 430 Home Nursing | 3 | HAd 430 Home Nursing | 3 |
| HAd 440 Household Management | 3 | HAd 440 Household Management | 3 |
| HAd 450 Practice Housekeeping | 4 | HAd 450 Practice Housekeeping | 4 |
| HS 211 Foods and Cookery | 4 | | — |
| HS 212 Foods and Cookery | 4 | | 20 |
| HS 213 Foods and Cookery..... | 4 | | |
| HS 320 Dietetics | 5 | | |
| HA 431 House Decoration | 3 | | |
| | — | | |
| | 40 | | |

HOUSEHOLD ART

| Major | | Minor | |
|---|----|---|----|
| HA 111 Clothing and Textiles.... | 4 | HA 111 Clothing and Textiles.... | 4 |
| HA 112 Clothing and Textiles.... | 4 | HA 112 Clothing and Textiles.... | 4 |
| HA 113 Clothing and Textiles.... | 4 | HA 113 Clothing and Textiles.... | 4 |
| HA 311 Adv. Clothing and Textiles | 5 | HA 311 Adv. Clothing and Textiles | 5 |
| HA 316 Advanced Textiles | 3 | HA 316 Advanced Textiles | 3 |
| HA 321 Beginning Millinery..... | 3 | HA 331 Costume Design | 3 |
| HA 331 Costume Design | 3 | | — |
| HA 411 Dress Design | 4 | | 23 |
| HA 416 Tailoring | 3 | | |
| HA 431 House Decoration | 3 | | |
| Ar 320 House Construction..... | 2 | | |
| | — | | |
| | 38 | | |

HOUSEHOLD SCIENCE

| Major | | Minor | |
|--------------------------------|----|--------------------------------|----|
| HS 211 Foods and Cookery | 4 | HS 211 Foods and Cookery | 4 |
| HS 212 Foods and Cookery | 4 | HS 212 Foods and Cookery | 4 |
| HS 213 Foods and Cookery | 4 | HS 213 Foods and Cookery | 4 |
| HS 320 Dietetics | 5 | HS 320 Dietetics | 5 |
| HS 420 Diet in Disease | 2 | HAd 440 Household Manage- | |
| HS 430 Methods of Demonstra- | | ment | 3 |
| tion | 1 | | — |
| HS 435 Experimental Cookery.. | 2 | | 20 |
| HS 440 Advanced Institutional | | | |
| Management | 2 | | |
| HS 447 Tea-room Management | 5 | | |
| HAd 440 Household Manage- | | | |
| ment | 3 | | |
| HAd 450 Practice Housekeep- | | | |
| ing | 4 | | |
| | — | | |
| | 36 | | |

GENERAL CURRICULUM IN HOME ECONOMICS

Freshman Year

| | 1st | Term 2d | 3d |
|---|-----|------------|----|
| English Composition, Eng 101, 102, 103 | 3 | 3 | 3 |
| * Mathematics or Science | 3 | 3 | 3 |
| ** Modern Language or Science | 3 | 3 | 3 |
| Hygiene, PEw 121 | 1 | | |
| Library Practice, Lib 100 | | 1 | |
| Introduction to Home Economics, HAd 100 | | | 1 |
| Gymnasium, PEw 111, 112, 113 | 1 | 1 | 1 |
| Electives | 5 | 5 | 5 |
| | — | — | — |
| | 16 | 16 | 16 |

Sophomore Year

| | | | |
|------------------------------------|----|----|----|
| English | 3 | 3 | 3 |
| Modern Language or Science | 3 | 3 | 3 |
| History or Economics | 3 | 3 | 3 |
| Gymnasium, PEw 121, 122, 123 | 1 | 1 | 1 |
| Electives | 6 | 6 | 6 |
| | — | — | — |
| | 16 | 16 | 16 |

* Nine credits in one science are required for graduation.

** If a modern language is chosen, at least two consecutive years of that language should be completed. Two elementary language courses may not be taken in the same year.

Junior and Senior Years

For a degree in Home Economics 36 credits in the School of Home Economics are required. The following courses are recommended to make up this requirement:

| | Credits |
|--|---------|
| HA 111, 112, 113. Clothing and Textiles (for students electing Art) | 12 |
| or— | |
| HA 11, 12, 13. Clothing and Textiles (for students not electing Art) | 12 |
| HS 211, 212, 213. Foods and Cookery (for students electing Chemistry) | 12 |
| HS 11, 12, 13. Foods and Cookery, Elementary Dietetics (for students not electing Chemistry) | 12 |
| HAd 310. Housewifery | 3 |
| HAd 320. Child Care | 3 |
| HAd 440. Household Management | 3 |
| HAd 430. Home Nursing | 3 |
| | — |
| | 36 |

MINOR IN COMMERCE

Students in Home Economics who wish a minor in Commerce should take the following courses as suggested by the Dean of the School of Commerce:

Freshman Year

| | 1st | Term 2d | 3d |
|--|-----|------------|----|
| Bookkeeping and Business Methods, Principles of Accounting, Corporation Accounting, BA 101, 102, 103 | 3 | 3 | 3 |
| or— | | | |
| Elementary Stenography, OT 101, 102, 103 and Elementary Typing, OT 111, 112, 113 | 5 | 5 | 5 |

Sophomore Year

| | | | |
|--|---|---|---|
| Accounting Practice, BA 201, 202, 203 | 3 | 3 | 3 |
| or— | | | |
| Elementary Typing, OT 111, 112, 113 | 2 | 2 | 2 |
| or— | | | |
| Accounting Practice, Industrial Accounting, Cost Accounting, BA 201, 202, 203 | 3 | 3 | 3 |
| or— | | | |
| Advanced Stenography and Typing, Office Training for Stenographers, OT 201, 202, 203.... | 5 | 5 | 5 |

MINOR IN PHYSICAL EDUCATION

Junior Year

| | 1st | Term 2d | 3d |
|---|---------------|---------------|---------------|
| Elementary Aesthetic Dancing, PEw 131a, 132a, 133a | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Advanced Outdoor Sports, PEw 241, 242, 243.... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Elementary Folk Dancing, PEw 131b, 132b, 133b | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Apparatus Work, PEw 137, 138, 139 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Organization and Administration of Physical Education and Recreation, PEw 472..... | | 3 | |
| Theory and Coaching of Athletic Sports, PEw 376 | | | 3 |
| | <hr/> 2 | <hr/> 5 | <hr/> 5 |

Senior Year

| | | | |
|--|---------------|---------------|---------------|
| General Zoology, ZP 101, 102 | 3 | 3 | |
| Comparative Vertebrate Zoology, ZP 103 | | | 3 |
| Playground and Gymnastic Games, PEw 375..... | | 3 | |
| History of Physical Education, PEw 431..... | 3 | | |
| Principles of Physical Education, PEw 461, 462, 463 | 3 | 3 | 3 |
| Advanced Hygiene and Sanitary Science, PEw 423 | | | 2 |
| Physical Diagnosis and Anthropometry, PEw 443 | | | 3 |
| Advanced Gymnastics, PEw 311, 312, 313 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Swimming, PEw 151, 152, 153 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Electives | | | 1 |
| | <hr/> 10 | <hr/> 10 | <hr/> 13 |

ONE-YEAR DIETITIANS' CURRICULUM

| | 1st | Term 2d | 3d |
|---|-----|------------|----|
| Science option | 3 | 3 | 3 |
| Foods and Cookery, HS 11 | 4 | | |
| Vocational Psychology, Psy 312 | 4 | | |
| Housewifery, HAd 310 | 3 | | |
| Sanitation and Public Health, HAd 300 | 3 | | |
| Household Management, HAd 440 | | 3 | |
| Elementary Dietetics, HS 12 | | 4 | |
| Business Management for Women, BA 371..... | | 2 | |
| Meat Judging, AH 475 | | 1 | |
| Markets and Marketing, ES 402 | | 4 | |
| Diet in Disease, HS 420 | | | 3 |
| Dormitory Management, HS 444 | | | 3 |
| Tea-room Management, HS 447 | | | 5 |
| Advanced Institutional Management, HS 440 | | | 2 |
| | 17 | 17 | 16 |

ONE-YEAR HOMEMAKERS' CURRICULUM

| | 1st | Term 2d | 3d |
|---|--------|------------|----|
| Foods and Cookery, Elementary Dietetics, HS 11, 12, 13 | 4 | 4 | 4 |
| Clothing and Textiles, HA 11, 12, 13 | 4 | 4 | 4 |
| Household Management, HAd 11 | 2 | | |
| Hygiene, PEw 121 | 1 | | |
| House Decoration, HA 31 | | 3 | |
| Care of Children, HAd 22 | | 2 | |
| Beginning Millinery, HA 321 | | | 3 |
| Gymnasium, PEw 11, 12, 13 | 1 | 1 | 1 |
| Electives | 4 or 5 | 3 | 5 |
| | 17 | 17 | 17 |

HOUSEHOLD ADMINISTRATION

Equipment. The department of Household Administration has one large laboratory, fully equipped. Recitation and lecture courses are given both in the Home Economics Building and in the Library Building. A well-equipped and self-supporting Practice House is located on the College campus. Advanced students reside in this house for a period of six weeks and are given an opportunity to study concrete problems in home management under the supervision of a member of the Household Administration faculty.

COLLEGIATE COURSES

HAd 100. Introduction to Home Economics. A course for beginning students. Purpose, value, and scope of Home Economics.

Required in Home Economics; freshman year; second term; 1 credit; 1 lecture.
Ava B. Milam

HAd 300. Sanitation and Public Health. Investigation of sanitary principles and conditions from the practical and scientific standpoints with special reference to the needs of the household, the school, and the community.

Prerequisites (or parallel) : Bac 205, Ph 200. Required in Home Economics; junior year; any term; 3 credits; 3 recitations.

Emma S. Weld

HAd 310. Housewifery. An application of chemistry, physics, and economics to the care of the house and its furnishings.

Prerequisite: Ch 103. Required in Home Economics; junior year; any term; 3 credits; 3 two-hour laboratory periods. Fee \$0.50.

A. Grace Johnson, Emma S. Weld

HAd 320. Child Care. Development of the child from the time of conception, through infancy, childhood, and adolescence; eugenics; prenatal care; habit formation; proper feeding; child welfare; responsibility of parenthood.

Prerequisites (or parallel) : ZP 321, HS 213. Required in Home Economics; junior year; any term; 3 credits; 3 lectures.

Mrs. Sara W. Prentiss

HAd 430. Home Nursing. Care of the patient under home conditions; symptoms; first aid; management of communicable diseases.

Prerequisites: ZP 321, Bac 205. Required in Home Economics; senior year; any term; 3 credits; 3 recitations. Fee \$0.50.

Mrs. Katherine B. Haight

HAd 440. Household Management. (Parallel with Practice House-keeping, HAd 450.) An application of the principles of scientific management to the home; study of the management of household operations and finances; family and community relationships.

Prerequisite: ES 391. Elective in Home Economics; junior or senior year; any term; 3 credits; 3 recitations. *A. Grace Johnson*

HAd 450. **Practice Housekeeping.** (Parallel with HAd 440.) A course dealing with the problems of the homemaker. Students live in the College Practice House for six weeks and put into practice the training received in all other Home Economics or related courses. For students in Professional Curriculum only.

Prerequisites: HAd 310, 320, HS 211, 212, 213, 320, or equivalent. Elective in Home Economics; junior or senior year; any term; 4 credits; 3 hours work daily. Fee \$6.00 a week for living expenses.

A. Grace Johnson

HAd 691, 692, 693. **Modern Problems in Household Administration.** Chemical, physiological, bacteriological, economic, or sociological topics, according to the preference and training of the individual students.

Prerequisite: HAd 440. Elective in Home Economics; senior or graduate year; three terms; credits and hours to be arranged.

VOCATIONAL COURSES

HAd 11. **Household Management.** A study of home problems, including the division of the income, choice of site for the house, construction, care of house, and its furnishings.

Required in Homemakers' Curriculum; first or second term; 2 credits; 2 lectures. *Emma S. Weld*

HAd 22. **Care of Children.** Brief study of development and care of child through infancy, childhood, and adolescence; prenatal care, habit formation, proper feeding.

Required in Homemakers' Curriculum; second term; 2 credits; 2 lectures. *Mrs. Sara W. Prentiss*

HAd 33. **Home Nursing.** Observation of symptoms; administration of medicine; care of sick under home conditions.

Elective in Homemakers' Curriculum; third term; 3 credits; 3 lectures. Fee \$0.50. *Mrs. Katherine B. Haight*

HOUSEHOLD ART

Equipment. The department has offices, class rooms, and laboratories in the Home Economics Building. All necessary furnishings and equipment are available for thorough instruction in textiles, sewing, dressmaking, tailoring, costume design, applied design, millinery, and house decoration.

COLLEGIATE COURSES

CLOTHING AND TEXTILES

HA 101. Elementary Clothing and Textiles. Fundamental processes of hand and machine sewing applied to the designing and constructing of undergarments and simple dresses, to repairing, and to decorative needlework; textile discussions.

Required of students in Home Economics who have had no high school sewing; freshman year; first term; 4 credits; 4 three-hour laboratory periods. Fee \$1.00. *Louise Schneider, Alma Fritchhoff*

HA 111. Clothing and Textiles. (For freshmen who have had one year or more of sewing in accredited high schools. If students are not able to carry this work successfully they will be required to take HA 101.) Designing and constructing of cotton and linen school dresses; materials, design, and decoration considered from standpoint of appropriateness, economy, and beauty; drafting; flat pattern designing; use of commercial patterns; textile study including development of textile industry and study of cotton relative to its use in the home and for clothing purposes.

Required in Home Economics; freshman year; first or second term; 4 credits; 1 lecture; 3 three-hour laboratory periods. Fee \$1.00. *Helen L. Davis, Gertrude Strickland, Alma Fritchhoff, Louise Schneider, Margaret Morehouse*

HA 112. Clothing and Textiles. Preparation and use of dress form; designing and constructing of simple wool dresses for school or street wear; emphasis on line and technique; appropriate decoration; textile study including linen and wool; practical information which will influence selection and make intelligent buyers.

Prerequisites: HA 111, A 110. Required in Home Economics; freshman year; second or third term; 4 credits; 1 lecture; 3 three-hour laboratory periods. Fee \$1.00.

Helen L. Davis, Gertrude Strickland, Alma Fritchhoff, Louise Schneider, Margaret Morehouse

HA 113. Clothing and Textiles. Designing and constructing of simple silk dresses; pattern modeling; remodeling in wool and silk; emphasis on design, color, and texture; textile study of silk; factors

affecting cost, quality, etc.; household linens, choice of, care, etc.; children's clothes from hygienic, economic, and artistic standpoints.

Prerequisites: HA 112, A 120. Required in Home Economics; third term; 4 credits; 2 lectures; 2 three-hour laboratory periods. Fee \$1.00. *Helen L. Davis, Gertrude Strickland, Alma Fritchhoff, Louise Schneider*

HA 118. Dress Design and Construction. (Brief course for young women in School of Commerce and other schools.) Preparation and use of dress form; appropriate designs and principles of construction worked out in planning and making of blouses, skirts, lingerie, and wool or silk dresses.

Elective; freshman year; any term; 3 credits; 3 three-hour laboratory periods. Fee \$1.00. *Mary Van Kirk*

HA 311. Advanced Clothing and Textiles. This course aims to develop independence, initiative, originality, and art in planning and designing garments for different types of figure, and skill and speed in constructing garments. Designing and constructing of children's clothes, lingerie dresses, and different types of blouses, and silk or wool dresses; textile study of minor textile fibers, their use and importance; laces and embroideries; rugs; problems connected with clothing manufacture; cost, hygiene, and care of clothing.

Prerequisites: HA 113, A 130, HA 331 either prerequisite or parallel. Required in Home Economics; junior year; any term; 5 credits; 2 lectures; 3 three-hour laboratory periods. Fee \$1.00.

Mary Van Kirk, Gertrude Strickland

HA 316. Advanced Textiles. Principles of art, economics, hygiene, and psychology applied to clothing; study of adulterants and substitutes; microscopic and chemical analysis of materials.

Prerequisites: HA 113, A 130, Ch 103. Required; senior year; any term; 3 credits; 3 lectures. Fee \$1.00. *Helen L. Davis*

MILLINERY

HA 321. Beginning Millinery. Designing and constructing frames; methods of covering; trimming and renovating.

Elective; any term; 3 credits; 3 three-hour laboratory periods. Fee \$1.50. *Helen McFaul*

HA 322. Advanced Millinery. This course continues the work of HA 321 with the purpose of developing speed, originality, and better technique; increased emphasis on millinery as a creative art; good foundation for trade work.

Prerequisite: HA 321. Elective; first or third term; 2 credits; 2 three-hour laboratory periods. Fee \$1.50. *Helen McFaul*

HA 328. Millinery. (Brief course for young women in School of Commerce and other schools.) Designing and construction of hats; trimming and renovating.

Elective; any term; 2 credits; 3 two-hour laboratory periods.
Fee \$1.50. *Helen McFaul*

APPLIED DESIGN

HA 331. Costume Design. Study of proportions of figure, color, types, and personality; effects of line, proportion, and color in dress; history of costume; problems in designing and modeling based on art principles and historic study.

Prerequisite: A 130. Required in Home Economics; junior year; any term; 2 lectures; 2 two-hour laboratory periods. Fee \$1.50.

Lila M. O'Neale

HA 411. Dress Design. Designing, modeling, and constructing of afternoon and evening dresses; emphasis on line, proportion, color, and texture; development of historical costume and its relation to modern fashions with aim of giving practical help and inspiration to students and teachers of dressmaking and costume design.

Prerequisites: HA 311, 331. Elective; senior year; any term; 4 credits; 1 lecture; 3 three-hour laboratory periods. Fee \$1.00.

Lila M. O'Neale

HA 416. Tailoring. Development of principles and processes of tailoring; application on silk and cloth suits.

Prerequisites: HA 311, 331. Elective; senior year; first or third term; 3 credits; 3 three-hour laboratory periods. Fee \$1.00.

HA 431. House Decoration. Planning and furnishing of homes, considering art, economy, convenience, and sanitation.

Prerequisite: A 130. Required in Home Economics; senior year; any term; 3 credits; 3 lectures; 1 two-hour laboratory period. Fee \$1.50.

Helen McFaul

HA 435. Applied Design. Decorative art involving careful consideration of line, form, proportion, and color; original designs executed in various media for clothing and house-furnishing problems; tie-dying, batik, and stencil decoration for textiles; embroidery, weaving, basketry, etc.

Prerequisite: A 130. Elective; senior year; any term; 3 credits; 3 three-hour laboratory periods. Fee \$2.00.

Louise Schneider

HA 438. The House. (Brief course for young women in School of Commerce and other schools.) Planning and furnishing of the home from the standpoint of art, economy, convenience, and sanitation.

Elective; first or third term; 3 credits; 3 lectures; 1 two-hour laboratory period. Fee \$1.00.

Margaret Morehouse

VOCATIONAL COURSES

HA 11, 12, 13. **Textiles.** Clothing and textile study to assist homemaker in her selection, use, and care of clothing and home furnishing materials; principles of art applied to dress; laboratory work planned to give the student practical experience in all needle-work problems that are met in the home; use of dress form; construction of wash dresses and children's clothes; designing and constructing of wool and silk dresses; remodeling.

Required in Homemaker's Curriculum; three terms; 4 credits each term; 2 lectures; 3 two-hour laboratory periods. Fee \$1.00 each term.

Margaret Morehouse, Lillian Taylor

HA 31. **House Decoration.** Planning and decorating the home. Artistic and economic problems.

Required in Homemakers' Curriculum; second term; 3 credits; 3 lectures; 1 two-hour laboratory period. Fee \$1.50.

Margaret Morehouse

Note: Students in Household Art courses who do not wish to make garments or hats for themselves may be furnished material through orders given to the department.

HOUSEHOLD SCIENCE

Equipment. The department is located in the Home Economics Building. Two single laboratories accommodating 20 students, and two double laboratories accommodating 40 students each, are well equipped. There is also a family kitchen and dining-room where much meal serving is conducted, and an institutional unit where training in institutional management is given.

COLLEGIATE COURSES

HS 101. Principles of Foods and Cookery. This course aims to give laboratory technique and a resume of elementary cookery. All work is upon a meal basis.

Required in Home Economics of students who have had no Household Science in high school; required in Dietitians' Curriculum; elective in School of Commerce and other schools; any term; 4 credits; 4 two-hour laboratory periods. Fee \$6.00.

Emma Weld, Mrs. Sara W. Prentiss

HS 150. Cookery for Men. A course for men who are planning and preparing their own meals or who are acting as managers of clubs.

Elective to men; first or second term; 1 credit; 1 three-hour laboratory period. Fee \$2.50.

Mrs. Sara W. Prentiss

HS 211. Foods and Cookery. An introduction to the subject of foods in their scientific and economic aspects of selection, preparation, and use.

Prerequisite: Ch 103. (Bot 201 and Ch 221 prerequisite or parallel.) Required in Home Economics; any term; 4 credits; 2 recitations; 2 three-hour laboratory periods. Fee \$4.00.

HS 212. Foods and Cookery. A continuation of HS 211.

Prerequisite: HS 211. (Ch 222 must precede or accompany this course.) Required in Home Economics; sophomore year; any term; 4 credits; 2 recitations; 2 three-hour laboratory periods. Fee \$4.00.

Emma Weld

HS 213. Foods and Cookery. A continuation of HS 211 with stress upon meal planning and serving.

Prerequisite: HS 212. Required in Home Economics; sophomore year; any term; 4 credits; 2 recitations; 2 three-hour laboratory periods. Fee \$4.00.

Emma Weld

HS 320. Dietetics. Scientific study of food materials in their relation to the daily dietary of families under various conditions of environment; dietary standards of metabolism; comparison of the nutritive values of common foods by computing, preparing, and serving dietaries of specific costs, furnishing specific nutrients.

HS 350. Camp Cookery. Instructions in preparing palatable and nutritious products from foods available in camps; outdoor food preparation, involving the use of Dutch ovens, reflectors, and improved camping utensils.

Elective in Forestry, Agriculture, Engineering, and Commerce; junior or senior year; third term; 1 credit; 1 three-hour laboratory period. Fee \$2.50.

Mrs. Sara W. Prentiss

Prerequisites: HS 213, ZP 321. Required in Home Economics; junior year; any term; 5 credits; 3 recitations; 3 two-hour laboratory periods. Fee \$4.00.

Winnona Cruise

HS 420. Diet in Disease.

Prerequisite: HS 320. Elective in Home Economics; any term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$2.00.

Winnona Cruise

HS 430. Methods of Demonstration. Public demonstrations in food selection and preparation; illustrative demonstrations by instructors.

Prerequisites: HS 213, 320. Elective in Home Economics; junior or senior year; any term; 1 credit; 1 three-hour laboratory period. Fee \$1.50.

Winnona Cruise

HS 435. Experimental Cookery. Individual problems. Each student selects some piece of work concerned with foods or related subjects. Oregon products often furnish material for these experiments.

Prerequisites: HS 213, 320. Elective in Home Economics; senior year; any term; 2 credits; 2 three-hour laboratory periods. Fee \$2.00.

HS 436. Advanced Cookery. This course is intended to acquaint the student with a great variety of food materials, and the more complicated processes of cookery. The food prepared to be adapted to different luncheons, dinners, afternoon teas and other functions.

Prerequisites: HA 213. Elective; third term; 2 credits; 1 lecture; 1 three-hour laboratory period. Fee \$5.00.

Winnona Cruise

HS 440. Advanced Institutional Management. Organization; standardization; scientific management applied to institutions; service and wages; methods of choosing and training employees; welfare work among employees; duties of a manager; institutional work in other universities and colleges.

Prerequisite: HS 447. Elective in Home Economics; senior year; third term; 2 credits; 2 lectures.

Melissa Hunter

HS 444. Dormitory Management. Practice in handling food materials in large quantities; methods of record keeping; planning equipment of large institutions; cost and replacement, linens, sani-

tation, service; practical work in housekeeping departments of Waldo and Cauthorn halls and cafeteria.

Prerequisites: HS 320, HAd 447. Elective in Home Economics; senior year; second and third terms; 3 credits; 1 lecture; 6 hours of laboratory work to be arranged. *Sibylla Hadwen*

HS 447. Tea-room Management. Training in various lines of management of tea-rooms, including plans, preparation, and service of luncheons to the public.

Prerequisite: HS 320. Elective in Home Economics; senior year; any term; 5 credits; 1 lecture; 5 four-hour laboratory periods for 6 weeks. *Melissa Hunter*

HS 450. Camp Cookery. A course designed to give advanced students of Home Economics training in application of principles of cookery to conditions found in camp.

Prerequisite: HS 320. Elective in Home Economics; senior year; third term; 1 credit; 1 three-hour laboratory period. Fee \$2.50.

HS 691, 692, 693. Research in Cookery. Research problems for which the student is suited by previous training and ability. Assignment of problems by the professor in charge.

Elective; graduate year; three terms; credits and hours to be arranged.

VOCATIONAL COURSES

HS 11. Foods and Cookery. A study of the composition of foods and the principles underlying cookery of the different foodstuffs. Preservation of foods.

Required in Homemakers' Curriculum and Dietitians' Curriculum; first term; 4 credits; 1 recitation; 3 three-hour laboratory periods. Fee \$6.00. *Mrs. Sara W. Prentiss*

HS 12. Elementary Dietetics. A simplified course in dietetics for the homemaker, with calculation of the energy value of dishes prepared.

Required in Homemakers' Curriculum; second term; 4 credits; 2 recitations; 2 three-hour laboratory periods. Fee \$4.00.

Mrs. Sara W. Prentiss

HS 13. Elementary Dietetics. A continuation of HS 12. Calculation of dietaries for families; meal planning and serving; study of digestion and assimilation.

Required in Homemakers' Curriculum; third term; 4 credits; 2 recitations; 2 three-hour laboratory periods. Fee \$4.00.

Mrs. Sara W. Prentiss

SCHOOL OF MINES

WILLIAM JASPER KERR, D.Sc., President of the College.

CHARLES EDWARD NEWTON, B.S., E.M., Dean of the School of Mines.

MYRTLE BURNAP, B.S., Secretary to the Dean.

JAMES HERVEY BATCHELLER, B.S., Associate Professor of Mining.

JOHN WALTER GRUNER, A.B., M.S., Assistant Professor of Geology.

The curriculum in Mines is designed to give thorough training in the fundamentals of the sciences of Geology, Mining, and Metallurgy, and to prepare for positions of responsibility in the industrial life of the country, particularly in the mining field. The curriculum is of such a comprehensive character that a graduate finds it of aid in varied employments. The opportunities which are open to graduates of the School of Mines include such positions as assayers, chemists, or metallurgists at mines and smelters; member of staffs of the Government and state geological surveys; member of the staff of the Government Coast and Geodetic Survey; land or deputy mineral surveyors; draftsmen and designers in engineering establishments; members of the engineering and geological staffs of mining, oil, and exploration companies and of railroads; and workers in the land-classification work of the Government forest service. Graduates may expect that after having reached the necessary maturity they will be competent to fill responsible positions in any branches of geology, mining, and metallurgy.

A four-year curriculum, leading to the degree of Bachelor of Science in Mining Engineering, is offered by the School of Mines. Students showing ability are offered the opportunity and encouraged to take special work in that branch of the profession that most interests them, such as geology, mining, or metallurgy.

The first two years in the School of Mines are the same for all students. The work is intended to give the student a thorough knowledge of those studies basic to all branches of engineering; namely, Mathematics, Physics, Chemistry, Mechanical Drawing, Plane Surveying, Shop Work, and courses having general cultural value.

Two months or more employment in industrial lines closely allied to the student's major work is a prerequisite to graduation.

Equipment. The School of Mines occupies a commodious, three-story and basement building especially designed for housing the lecture rooms and laboratories devoted to Mining, Metallurgy, Ore

Dressing, Geology, and closely allied subjects. The assaying and metallurgical laboratory occupies a room 30 feet by 60 feet on the first floor of the building, extending across the entire east end. It is amply lighted and is completely equipped with the necessary apparatus for conveniently and scientifically carrying on experimental metallurgical operations. A crushing and grinding laboratory and an ore-testing laboratory, completely equipped, occupy two rooms in the basement, each 25 by 30 feet. On the second floor is located the mining drafting room, equipped for topographical drafting, mining and metallurgical design. The geology laboratories occupy the third floor of the Mines Building, and comprise the Geologic and Mining Museum, the mineralogic laboratory, and the petrologic laboratory. In the Museum are arranged collections of ores, minerals, and rocks from the important mining camps in Oregon. Besides these collections there are many attractive specimens of minerals, rocks, and fossils from numerous American localities. Geologic products are shown, such as samples of different clay wares and cement goods. In addition there is a large-scale relief map of the State. The geologic laboratories contain over 12,000 specimens of ores, rocks, and minerals; rock slides for microscopic work; and geologic and topographic maps.

Miners' Club. The Miners' Club is a society composed of all students and faculty members of the School of Mines. All members of this organization are also members of a junior branch of the American Institute of Mining and Metallurgical Engineers. At the monthly meetings of the Club, addresses are made by prominent mining engineers, and papers descriptive of the summer work of the students are presented by the student members.

DEGREE CURRICULUM IN MINING ENGINEERING

Freshman Year

| | 1st | Term 2d | 3d |
|--|-----------|------------|-----------|
| General Chemistry Qualitative Analysis, Ch 104, 105, 106, 131 | 5 | 5 | 5 |
| Plane Trigonometry, Elementary Analysis, Mth 111, 131, 132 | 4 | 4 | 4 |
| Mechanical Drawing, ME 111, 112 | 2 | 2 | |
| English Composition, Eng 101, 102, 103 | 3 | 3 | 3 |
| Drawing and Descriptive Geometry, CE 113 | | | 2 |
| Elements of Geology, G 101 | 1 | | |
| Elements of Mining, MiE 142 | | 1 | |
| Elements of Metallurgy, Met 163 | | | 1 |
| Physical Education, PE 111, 112, 113 | 1½ | 1½ | 1½ |
| Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 16½ | <hr/> 16½ | <hr/> 16½ |

Sophomore Year

| | 1st | Term 2d | 3d |
|--|------------------------|------------------------|------------------------|
| Qualitative Analysis, Ch 231, 241, 242 | 3 | 3 | 3 |
| Differential, Integral Calculus, Mth 251, 252, 253 | 4 | 4 | 4 |
| Engineering Physics, Ph 111, 112, 113 | 3 | 3 | 3 |
| Plane Surveying, CE 121 | | | 5 |
| Advanced Blacksmithing, IA 252 | | 2 | |
| Crystallography, Blowpipe Analysis, and Determinative Mineralogy, G 211, 212 | 5 | 3 | |
| Physical Education, PE 211, 212, 213 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ |

Junior Year

| | | | |
|--|----------|----------|----------|
| Mechanics, Strength of Materials, MM 351, 352, 353 | 3 | 3 | 3 |
| Hydraulics, IE 211 | 3 | | |
| Technical Electricity, EE 251 | 3 | | |
| Steam Machinery, ME 228 | | 3 | |
| Lithology or Rock Study, G 311 | 3 | | |
| Structural Geology, G 312 | | 2 | |
| General Geology, G 301 | 3 | | |
| Principles of Mining, MiE 343 | | | 3 |
| Geologic Surveying and Mapping, G 323 | | | 3 |
| Mine Surveying, MiE 353 | | | 3 |
| Assaying, Met 362 | | 5 | |
| Principles of Economic Geology, G 332, 333 | | 2 | 3 |
| Military Science and Tactics | 2 | 2 | 2 |
| | <hr/> 17 | <hr/> 17 | <hr/> 17 |

Senior Year

| | 1st | Term 2d | 3d |
|--|-----|------------|----|
| Mining Engineering, MiE 441, 442, 443 | 4 | 4 | 1 |
| Metallurgy of Gold and Silver, Metallurgy of Copper, Lead, and Zinc, Met 462, 463 | | 4 | 4 |
| Ore Dressing, Met 481, 482, 483 | 3 | 3 | 3 |
| Metallurgical Laboratory, Met 492, 493 | | 3 | 3 |
| Metallurgy of Iron, Met 473 | | | 3 |
| Economic Geology, G 431 | 3 | | |
| Principles of Metallurgy, Met 461 | 4 | | |
| Introduction to Economics, ES 391 | 3 | | |
| National Government, State and Local Govern- ment, PS 301 or PS 302 | | 3 | |
| Business Management, BA 332 | | | 3 |
| | — | — | — |
| | 17 | 17 | 17 |

SUGGESTED ELECTIVES

Electrical Engineering.

Elementary course in Gas Engines, including operation, maintenance, and theory (ME 224)

Elementary course in Steam Engineering, including operation, maintenance, and theory (ME 228)

Steam Power Plants (ME 339)

Masonry and Foundation (CE 341)

Industrial Inorganic Chemistry (ChE 321, 322)

Industrial Organic Chemistry (ChE 431, 432)

Electrochemical Industries (ChE 441)

Geology of Igneous Rocks (G 611)

Historical Geology and Stratigraphy (G 621)

Oil Geology (G 632)

Metallurgical Design (Met 662)

Electrometallurgy (Met 663)

Thesis

GEOLOGY

The courses in Geology are designed primarily to give the student of Mining Engineering a sound knowledge of the principles of the many branches of the science, and a thorough training in geologic technique having a direct bearing upon the mining profession. Advanced technical courses in Geology are open to qualified students. Several geologic courses are especially designed for students in Agriculture, Civil Engineering, and Forestry.

COURSES

G 101. Elements of Geology. In order to have the simplest conception of the mining profession, one must have an elementary knowledge of Geology. The aim of this course is to give a general outline of the fundamentals of Geology and to show their correct application to mining engineering.

Required in Mines; elective to others; freshman year; first term; 1 credit; 1 lecture.

C. E. Newton

G 103. General Geology for Foresters. Characteristics of the commoner minerals, rocks, and ores; the more important structural features of rocks and mineral deposits; the criteria for recognizing the various types of ore deposits; practice in the interpretation of geologic and topographic maps to enable students to make use of these maps in the field.

Prerequisite: General Chemistry. Elective in Forestry; freshman year; third term; 3 credits; 2 recitations; 1 laboratory period. Fee \$1.00.

J. W. Gruner

G 202. Engineering Geology. A course in general and applied Geology for students in Engineering, emphasizing those phases of the subject with which the civil, irrigation, and highway engineer should be familiar. The origin and nature of the materials of the earth; review of geologic processes which modify the earth's surface; occurrence and nature of geologic structural and road materials; influence of structure of rocks on engineering projects; study of ground waters and effect on water supply and foundation sites; interpretation of geologic and topographic maps; occurrence of ores and other minerals of economic value.

Required in Civil Engineering (sophomore year); elective to others in Engineering (junior or senior year); second term; 2 credits; 2 recitations; 1 two-hour laboratory period. Fee \$1.00. Text: Ries and Watson, Engineering Geology.

J. W. Gruner

G 203. Engineering Geology. Continuation of G 202.

Prerequisite: G 202. Required in Civil Engineering (sophomore year); elective to others in Engineering (junior or senior year);

third term; 2 credits; 2 lectures. Text: Ries and Watson, *Engineering Geology*.
J. W. Gruner

G 211. Crystallography, Blowpipe Analysis, and Determinative Mineralogy. It is quite essential that the student should have a practical understanding of Crystallography and to that end considerable time is spent upon the determination of natural crystals. Blowpipe analysis is essentially a field method for the chemical determination of minerals. Determinative Mineralogy, as the name indicates, is the utilization of many methods to determine minerals. Emphasis is given to those physical properties which may be used to determine minerals in the field.

Required in Mines; sophomore year; first term; 5 credits; 2 recitations; 4 two-hour laboratory periods. Fee \$4.00. Text: Moses and Parsons, *Mineralogy, Crystallography, and Blowpipe Analysis*.
J. W. Gruner

G 212. Mineralogy. A continuation of Determinative Mineralogy, G 211. In addition a certain amount of time is spent in the study of the occurrence and origin of minerals.

Prerequisite: G 211. Required in Mines; sophomore year; second term; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$2.00. Text: Moses and Parsons, *Mineralogy, Crystallography, and Blowpipe Analysis*.
J. W. Gruner

G 214. Crystallography. Briefer course than G 211.

Required in Chemical Engineering; sophomore year; first term; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$2.50.
J. H. Batcheller

G 215. Mineralogy. Topics covered in G 212 adapted to needs of Chemical Engineering students.

Required in Chemical Engineering; sophomore year; second term; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$2.00.
J. H. Batcheller

G 301. General Geology. Fundamental principles of Geology; practice in the interpretation of geologic and topographic maps; summary of the historical geology and stratigraphy of North America.

Prerequisite: General Chemistry; required in Mines; elective to others; junior year; first term; 3 credits; 3 recitations. Fee \$1.00. Text: Pirsson and Schuchert, *Textbook of Geology*.
J. W. Gruner

G 302. General Geology for Students in Agriculture. This course is designed to present effectively the subject of Geology to the Agriculture student. The fundamental principles are given, and their application to agriculture is emphasized. In the laboratory the student studies the common minerals and rocks by practice with

extensive collections, so that he may be able to identify them readily in the field. Two field trips are taken, that the student may gain first-hand knowledge of geologic processes.

Prerequisite: General Chemistry. Required in Landscape Gardening and Soils; elective to others in Agriculture; junior year; second term; 3 credits; 3 lectures; 1 two-hour laboratory period. Fee \$1.00.

J. H. Batcheller, J. W. Gruner

G 311. Lithology or Rock Study. This course is intended to familiarize the student with the characteristics of the commoner rocks so that he may identify them in the field. Rocks, their origin, mode of occurrence, and alteration; emphasis upon the numerous petrologic facts and principles which bear an immediate relation to mining operations.

Prerequisites: G 212 and 301. Required in Mines; junior year; first term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$1.00.

J. W. Gruner

G 312. Structural Geology. Continuation of G 311. This course treats of the greater features observed in the rocks, with emphasis on those important to the mining engineer, as faults, folds, and metamorphism.

Prerequisite: G 311. Required in Mines; junior year; second term; 2 credits; 1 lecture; 2 two-hour laboratory periods. Fee \$1.00.

J. W. Gruner

G 323. Geologic Surveying and Mapping. A study of the principles and methods of geologic surveying and mapping and their application to field work. The student is assigned a small area and is required to make a geologic map and report, based upon the results of his field work. A two-week trip is made to a mining locality showing a variety of geologic features.

Prerequisite: G 312. Required in Mines; junior year; third term; 3 credits; 1 recitation; 6 hours in field and laboratory. Fee \$2.00.

J. W. Gruner, J. H. Batcheller

G 332. Principles of Economic Geology. A study of the many and various factors pertaining to the application of geology to industry. Geologic occurrence of coal, petroleum, gas, clay, building stone, ore deposits, and the like is carefully studied and particular attention is given to those characteristics affecting economic value.

Required in Mines; junior year; second term; 2 credits; 2 recitations. Text: Lindgren, Mineral Deposits.

J. W. Gruner

G 333. Principles of Economic Geology. Continuation of G 332. The principles of ore deposition are taken up in detail.

Prerequisite: G 332. Required in Mines; junior year; third term; 3 credits; 3 recitations. Text: Lindgren, Mineral Deposits.

J. W. Gruner

G 413. Petrography. A more advanced course in Petrology. The optical properties of the rock-forming minerals and the characteristics of the principal rock types are studied with the aid of thin sections and polarizing microscope. Type collections with their corresponding rock sections are available, and the student has the opportunity to supplement field determinations with the exact knowledge gained through the use of the microscope.

Prerequisites: G 311 and 312. Elective; third term; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$3.00. *J. W. Gruner*

G 422. Interpretation of Geologic and Topographic Maps. Study of the representation of geologic and topographic data; interpretation of geologic maps and cross-sections of topographic maps; methods of plotting geologic data on engineering maps; a large number of Government and other geologic and topographic maps covering varied regions of the United States studied in detail.

Elective in Mines, Engineering, and Forestry; junior or senior year; second term; 2 credits; 2 laboratory periods. Fee \$1.00.

J. W. Gruner, J. H. Batcheller

G 431. Economic Geology. Various types of deposits that occur in important mining camps are discussed, and written abstracts are required from literature bearing on the subject. Considerable importance is attached to the laboratory work, which consists of mineralogic and petrologic study of rocks and ores from type deposits. A certain amount of time is devoted to a discussion of field methods, mine examinations, and reports.

Prerequisite: G 333. Required in Mines; senior year; first term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$1.00.

J. W. Gruner

G 432. Problems in Economic Geology. Problems in mining and field geology are worked out by the student in the laboratory and drafting room. Geologic, topographic, and mine maps are used, and many structural problems are studied, with special regard to their application to the development of mineral deposits.

Prerequisite: G 431. Elective; senior year; second term; 2 credits; 2 laboratory periods. Fee \$1.00.

J. W. Gruner

G 611. Geology of Igneous Rocks. A course dealing with the origin of igneous rock bodies and designed for graduate or advanced students. Such subjects as magnetic differentiation, the mechanism of intrusive and extrusive action, are discussed in detail, and special attention is given to those subjects that have an important technical bearing, such as contact metamorphism, magmatic waters, gaseous emanations, etc.

Prerequisite: G 413. Elective; first term; 2 credits; 2 recitations.

J. W. Gruner

G 621. Historical Geology and Stratigraphy. Lectures on the origin and history of the earth and plants and animals that have inhabited it; outline of invertebrate paleontology; principles on which is based the determination of the age of fossiliferous rocks by means of "faunal groups" and by the recognition of characteristic species.

Prerequisite: G 312. Elective; first term; 3 credits; 3 recitations.

J. W. Gruner

G 632. Oil Geology. A course in the geology of petroleum consisting of a study of the origin, geologic occurrence, geologic structure and distribution of deposits of petroleum and natural gas, with special reference to the oil and gas fields of the United States, Mexico, and South America. Methods of exploring for oil, methods of mapping geologic structure, and methods of recording and filing geologic data bearing upon the geology of oil and gas, are studied.

Prerequisite: G 312. Elective; senior year; second term; 2 credits; 2 lectures or recitations; 1 laboratory period. *J. W. Gruner*

METALLURGY

The aim of the various courses in Metallurgy is to give the student a broad and general knowledge of the methods of treating ores, metals, and other products of the mineral industry, including the processes of assaying, amalgamation, cyanidation; general milling methods, such as crushing, grinding, and concentration; and the smelting of ores for iron, copper, lead, and zinc, and the minor metals, and their refining.

COURSES

Met 163. Elements of Metallurgy. An introductory course in Metallurgy; various phases of the treatment of ores; use of fuels; the production of metals.

Required in Mines; elective to others; freshman year; third term; 1 credit; 1 lecture. *C. E. Newton*

Met 362. Assaying. The quantitative determination of the constituents of reagents; crushing, sampling and assaying of ores; fluxes, and general metallurgical products.

Required in Mines; junior year; second term; 5 credits; 1 recitation; 3 four-hour laboratory periods. Deposit \$15.00. Text: Fulton, Manual of Fire Assaying. *C. E. Newton*

Met 461. Principles of Metallurgy. Application of the laws of Chemistry and Physics to metals and alloys; study of fuels, refractory materials, metals and alloys; furnaces and the principles of smelting.

Required in Mines; senior year; first term; 4 credits; 4 recitations. Text: Hofman, General Metallurgy. *C. E. Newton*

Met 462. Metallurgy of Gold and Silver. Study of the smelting, amalgamation, cyanidation, and other processes for the production of gold and silver from their ores.

Required in Mines; senior year; second term; 4 credits; 4 recitations. *C. E. Newton*

Met 463. Metallurgy of Copper, Lead, and Zinc. Study of the method of producing and refining; the economic conditions affecting the production of common non-ferrous metals.

Required in Mines; senior year; third term; 4 credits; 4 recitations. *C. E. Newton*

Met 473. Metallurgy of Iron. Study of the smelting of iron from its ores; the production of cast iron and wrought iron and the general varieties of steel.

Required in Mines; senior year; third term; 3 credits; 3 recitations. Text: Bradley Stoughton, Metallurgy of Iron and Steel.

J. H. Batcheller

Met 481, 482, 483. **Ore Dressing.** The principles of breaking, grinding, concentrating; general treatment of ores by various processes.

Required in Mines; senior year; three terms; 3 credits each term; 3 recitations. Texts: Richards, Textbook of Ore Dressing. Rickard and Ralston, Flotation. *C. E. Newton*

Met 492, 493. **Metallurgical Laboratory.** Laboratory testing in connection with Met 462, Metallurgy of Gold and Silver; Met 463, Metallurgy of Copper, Lead, and Zinc; and Met 481, 482, 483, Ore Dressing.

Required in Mines; senior year; second and third terms; 3 credits each term; 3 three-hour laboratory periods. Fee \$5.00. Deposit \$5.00 each term. *C. E. Newton, J. H. Batcheller*

Met 661. **Metallurgy of the Minor Metals.** The metallurgy of mercury, tin, aluminum, nickel, arsenic, and antimony; study of the methods of production and the uses in the arts.

Elective; senior year; first term; 2 credits; 2 recitations.

C. E. Newton

Met 662. **Metallurgical Design.** Study of plant flow sheets; designing of apparatus for metallurgical operations; working up of flow sheets for milling, smelting, and leaching operations.

Elective; senior year; second term; 2 credits; 2 laboratory periods. Fee \$2.00. *C. E. Newton*

Met 663. **Electrometallurgy.** The principles, processes, and apparatus involved in using electrical energy for the smelting and refining of ores and metals.

Elective; senior year; third term; 2 credits; 2 recitations.

C. E. Newton

MINING ENGINEERING

The courses in Mining Engineering are intended to equip the student with a thorough knowledge of the basic principles of the art of mining which are essential in development of mineral properties, design and construction of mine plants, and management of mines.

COURSES

MiE 142. Elements of Mining. An introductory course designed to give the main features of mining, the aim being to summarize the phases that the student takes up in detail later in his work, to acquaint him early in his course with the life, the work, and the field of the profession.

Required in Mines; elective to others; freshman year; second term; 1 credit; 1 lecture.

C. E. Newton

MiE 143. Explosives: Their Properties and Use. This course offers an opportunity to students in Agriculture, Forestry, Civil Engineering, or others, to learn the principles of explosive action and to study the properties of explosives. Proper use of common high explosives; waste and danger of improper use; emphasis upon the various methods of using explosives as applied to farming, road building, etc; actual field practice in loading and firing; blasting with the aid of electricity.

Prerequisite: General Chemistry. Elective; third term; 2 credits; 1 lecture each week; 4 three-hour laboratory periods during the term. Fee \$1.00.

J. H. Batcheller

MiE 243. Excavation, Explosives, and Blasting. Methods and cost of earth and rock excavation, tunneling, and shaft sinking; study of explosives used in mining and excavation work; methods of handling and storing explosives; methods of blasting.

Elective; sophomore year; third term; 3 credits; 3 lectures.

J. H. Batcheller

MiE 343. Principles of Mining. Comprehensive view of the mining problem; prospecting; boring; drilling; explosives; rock breaking; methods of developing and working; transportation and drainage.

Required in Mines; junior year; third term; 3 credits; 3 recitations. Text: Young, Elements of Mining.

J. H. Batcheller

MiE 353. Mine Surveying. Study of the methods of surveying as used on surface and underground in connection with mining operations; United States land subdivision and mining laws; claim surveys and locations; patent work; topographic surveys and maps; underground methods of traversing; stope measurement; connections; a field trip during the last two weeks of the term to some mine in the vicinity of the College.

Required in Mines; junior year; third term; 3 credits; 2 recitations; 1 laboratory period. Fee \$2.00. Text: Peele, Mining Engineers Hand Book.

J. H. Batcheller

MiE 441. Mining Engineering. A study of the organization, operation, and economics of general types of mining operations.

Required in Mines; senior year; first term; 4 credits; 4 recitations.

J. H. Batcheller

MiE 442. Mining Engineering. A continuation of MiE 441. Study of the complete operations at a few typical mines. The student is also required to choose some small mining property, the geologic conditions of which are given, and to draw up plans to develop the property into a producing mine, and to consider the treatment and disposal of the ore.

Prerequisite: MiE 441. Required in Mines; second term; 4 credits; 2 recitations; 2 laboratory periods. Fee \$2.00.

J. H. Batcheller

MiE 443. Mining Engineering. A study of the technical and economic articles on mining that appear in the current periodicals and mining institute publications. This is particularly important training, preparatory to what the engineer will have to do for himself after graduation, in order to keep abreast of the ever improving and advancing commercial practice in all lines in addition to that in which his early employments may fall.

Required in Mines; senior year; third term; 1 credit; 1 recitation.

J. H. Batcheller

MiE 641. Mine Economics and Mining Law. Study of the costs of mining; methods of mine accounting and cost keeping; mining laws of the United States, Canada, and Mexico.

Elective; senior year; first term; 3 credits; 3 recitations.

J. H. Batcheller

MiE 642. Mine and Power Equipment. Study of surface and underground equipment for mines, including haulage systems, hoists, compressors, drills, pumps, etc.; discussion of the sources of power, water, hydroelectric, steam, gas, and compressed air; problems illustrating their application to mining methods.

Elective; senior year; second term; 3 credits; 3 recitations.

J. H. Batcheller

MiE 643. Mine Plant Design. The student designs and details plans and specifications for mine equipment to meet the requirements of a hypothetical mine.

Elective; senior year; third term; 2 credits; 2 three-hour laboratory periods. Fee \$2.00.

J. H. Batcheller

SCHOOL OF PHARMACY

WILLIAM JASPER KERR, D.Sc., President of the College.

ADOLPH ZIEFLE, Ph.C., M.S., Dean of the School of Pharmacy

HERSCHEL BRIAN MCWILLIAMS, Ph.C., B.S., Assistant Professor of Pharmacy.

MERRILL OLIVER RAWSON, Ph.C., B.S., Instructor in Pharmacy.

The School of Pharmacy was established in 1898 by the Board of Regents of the College upon petition of the druggists of the State, to meet the growing demand for thorough practical and theoretical training in Pharmacy and related branches. From its inception it has grown steadily and has always had a place in the front rank of the profession.

Curricula. Three degree curricula are offered: a four-year curriculum leading to the degree of Bachelor of Science in Pharmacy; a three-year curriculum leading to the degree of Pharmaceutical Chemist; a two-year curriculum leading to the degree of Graduate in Pharmacy. Since the Pharmacy curricula contain all subjects required by medical schools for entrance, students can elect any of these curricula and complete their pre-medical work in two years. This same advantage is afforded students who contemplate entering the profession of dentistry. In addition to the above, students who have not completed a full four-year high school course may register in the School as special students, not candidates for a degree. These students have the same privileges in the election of courses as do the degree students, but more especially in preparation for State pharmacy examinations. All special students should confer with the Dean regarding their credentials before registering.

Purpose of Training. Since the establishment of the School of Pharmacy in the College, consistent endeavor has been made to provide well-balanced courses that will fit students not only for practical drug-store work, but for a variety of positions in pharmaceutical, analytical, and medical chemistry. Students are trained not only in technique, power of observation, and the principles of Pharmacy, but also in resourcefulness, initiative, and individual responsibility.

Standard of Work. All work offered in the School meets the highest requirements of pharmaceutical instruction in this country. The School is a member of the American Conference of Pharmaceutical Faculties, and all of its courses are registered by the New

York Board of Higher Education. The facilities for instructional work are good, and because of the broad training that students derive from laboratory work, this is made a special feature of the School. Diplomas as well as all work of students in this School will be recognized by all state boards of pharmacy which require attendance in a school of pharmacy as a prerequisite for registration.

Requirements of the Profession. For the practice of pharmacy today high requirements must be met. Public sentiment has demanded enactment of stringent laws. It is now a necessity that a pharmacist have scientific training such as cannot be obtained by merely working in a drug store. College training is necessary. State boards of pharmacy, recognizing the importance of college training as a means of insuring accurate preparation and dispensing of medicines, are requiring college training before the student is eligible to take the state examination. The Oregon Board of Pharmacy requires that, beginning January 1, 1920, all candidates for examination must have attended a recognized school of pharmacy for one year. Beginning January 1, 1922, all applicants must be Graduates in Pharmacy.

Demand for Graduates. The demand for educated pharmacists was never so great as it is today. The demand is for those having business capacity, industry, integrity, and a good pharmaceutical education. Because of the responsibility of the profession, in no line of work is expert knowledge more necessary than in pharmacy. State and Federal pure food and drug laws make it now a necessity that a pharmacist be thoroughly familiar with all drugs and their preparation.

Opportunity for Graduates. Graduates in pharmacy are capable of occupying a number of different kinds of positions because of the broad training they receive. In the degree curricula students receive intensive and varied training which fits them to be analytical chemists, prescription dispensers, manufacturing pharmacists and chemists, food and drug inspectors, traveling salesmen, bacteriologists, physicians' assistants, and experts in other positions requiring a knowledge of pharmacy, chemistry, and medicine. There is no field which offers greater opportunities for women than pharmacy. The work is clean, pleasant, and agreeable; and because of the neatness and accuracy necessary in the dispensing of drugs, women are peculiarly adapted to it.

State Pharmacy Examinations. Since all students in pharmacy are required to pass the State pharmacy examinations in order to become registered pharmacists, preparation for these examinations is a special feature of the work of the School. Aside from enabling the student to become a registered pharmacist, however, the aim of

the School is to afford him an opportunity to obtain a thorough foundation in the principles of pharmacy and chemistry in order that he may successfully continue his studies after leaving College.

Equipment. The School of Pharmacy has its lecture rooms and laboratories in Science Hall, a building which conveniently meets the need for space, light, and ventilation.

All laboratories and lecture rooms are splendidly equipped with all apparatus necessary for practical pharmaceutical instruction. Students have individual desks which are supplied with the apparatus necessary for the specific course. Students can borrow as much additional apparatus as they may need from the pharmacy stock-room. In order to save as much of the students' time as possible and make possible higher efficiency in laboratory courses, all stock is placed on side shelves. By this means students can repeat an experiment as many times as are necessary to get accurate results.

In addition to the usual permanent fixtures and apparatus for individual students, the School is supplied with a number of pieces of special apparatus such as pharmaceutical stills, tablet and pill machines, filter presses, hand and power drug mills, special percolators, gas and electric drying ovens, and such other apparatus as is necessary for modern pharmaceutical instruction. The pharmacognosy room contains several hundred samples of crude drugs, official and unofficial preparations, and active principles of drugs used for study and identification purposes. There is also a collection of authentic crude drugs and their preparation donated by Eli Lilly Company. This collection is used as a standard for all new supplies of drugs received. The special laboratory for Commercial Pharmacy is very well equipped for sign-card painting and display material. In addition to brushes, pens, paints, and other apparatus used in show-card work, each desk is provided with an air-brush outfit useful in shading of letters and drawings.

Four-year Curriculum. This curriculum is academic and professional in nature and is therefore the most satisfactory one to elect. Upon completion of the required subjects, students are granted the degree of Bachelor of Science in Pharmacy (B.S.). This curriculum includes all professional work of the two-year and three-year curricula as well as all pre-medical subjects. Graduates of this curriculum are prepared for any position requiring a knowledge of drugs and chemicals. Aside from a thorough training in Pharmacy and Chemistry, students in this curriculum are also instructed in Bacteriology, Physiology and Zoology, Physics, English, Modern Languages, Pharmaceutical Botany, Business Law, and Military Science and Tactics.

Three-year Curriculum. This curriculum leads to the degree of Pharmaceutical Chemist (Ph.C.) and is offered to meet the demand of many students desiring to prepare for special lines of work, such as commercial chemists, food and drug inspectors and analysts, clinical chemists for physicians. Pre-medical students find this curriculum the most satisfactory to elect, as they can complete pre-medical subjects as well as all professional Pharmacy subjects in three years. They are then eligible to take the examinations of the Oregon State Board of Pharmacy, and if successful, they can practice in any of forty-three states without further examination.

All work of the two-year curriculum is required in the three-year curriculum unless other arrangements are made. The courses of the third year are elective and are designed to qualify students for special lines of work. Any selection of courses, however, can only be made after consultation with the Dean.

Two-year Curriculum. This curriculum leads to the degree of Graduate in Pharmacy (Ph.G), and comprises the more practical courses in Pharmacy. It prepares directly for drug-store and dispensing practice and provides a groundwork in analytical chemistry necessary for the practice of pharmacy. The plan of study appeals especially to young men and women who desire to prepare for state pharmacy examinations. The curriculum meets all of the requirements of the Oregon State Pharmacy Law as well as those of other states requiring attendance in a school of pharmacy before a student can take the state examinations. If they so desire, students completing this curriculum may continue with the work of either the three-year or the four-year curriculum.

Special Students. The facilities of the School of Pharmacy are open to those drug salesmen and students who cannot meet the entrance requirements of the above curricula leading to degrees. Special students have the same privileges as students in degree curricula, and are subject to the same college regulations as other undergraduate students. Special students may not be candidates for a degree until they have fulfilled all college requirements, including those for admission to freshman standing.

FOUR-YEAR CURRICULUM IN PHARMACY**Freshman Year ***

| | 1st | Term 2d | 3d |
|---|---------------|---------------|---------------|
| English Composition, Eng 101, 102, 103 | 3 | 3 | 3 |
| General Chemistry, Ch 104, 105, 106 | 5 | 5 | 2 |
| Qualitative Analysis, Ch 131 | | | 3 |
| General Zoology Comparative Vertebrate Zoology, ZP 101, 102, 103 | 3 | 3 | 3 |
| Pharmaceutic Botany, Bot 107, 108, 109..... | 3 | 3 | 3 |
| Elementary Pharmacy, Phr 111, 112, 113 | 1 | 1 | 1 |
| Gymnasium for Men, PEm 111, 112, 113 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Gymnasium for Women, PEw 111, 112, 113 | (1) | (1) | (1) |
| Hygiene for Women, PEw 121 | (1) | | |
| Military Science and Tactics | 1 | 1 | 1 |

Sophomore Year

| | | | |
|--|------------------|------------------|------------------|
| | 16 $\frac{1}{2}$ | 16 $\frac{1}{2}$ | 16 $\frac{1}{2}$ |
| Organic Chemistry, Ch 226, 227 | 5 | 5 | |
| Quantitative Analysis, Ch 244 | | | 5 |
| Physiology and Anatomy, ZP 211, 212, 213 | 3 | 3 | 3 |
| Pharmaceutical Latin, Phr 220 | 3 | | |
| Modern Language | 3 | 3 | 3 |
| Introduction to Economics, ES 391 | | 3 | |
| Business and Rural Law, PS 163 | | | 3 |
| Gymnasium for Men, PEm 211, 212, 213 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Gymnasium for Women, PEw 211, 212, 213 | (1) | (1) | (1) |
| Military Science and Tactics | 1 | 1 | 1 |

Junior Year

| | | | |
|---|------------------|------------------|------------------|
| | 15 $\frac{1}{2}$ | 15 $\frac{1}{2}$ | 15 $\frac{1}{2}$ |
| Theoretical Pharmacy, Phr 311 | 4 | | |
| General Bacteriology, Bac 204, 332, 333 | 3 | 3 | 3 |
| Modern Language | 3 | 3 | 3 |
| Practical Pharmacy, Phr 333 | | | 3 |
| Pharmaceutical Preparations, Phr 343 | | | 3 |
| Pharmacognosy, Phr 351, 352 | 2 | 4 | |
| Inorganic Pharmacy, Phr 353 | | | 3 |
| Alkaloidal Testing, Ch 371 | 3 | | |
| Drug Assaying, Ch 374 | | 3 | |
| Pharmaceutical Calculations, Phr 321 | | 2 | |
| Military Science and Tactics | 2 | 2 | 2 |
| | 17 | 17 | 17 |

* As one year of college Physics is required by all medical schools for entrance, it is suggested that all students pursuing this curriculum arrange to elect Physics during their freshman year.

Senior Year

| | 1st | Term 2d | 3d |
|--|----------|------------|----------|
| Materia Medica, Phr 451, 452, 453 | 3 | 3 | 3 |
| U. S. Pharmacopoeia and National Formulary, Phr 431, 432, 433 | 3 | 3 | 3 |
| Food and Drug Analysis, Ch 377 | | 5 | |
| Prescription Lectures, Phr 461 | 4 | | |
| Prescription Incompatibilities, Phr 462 | | 4 | |
| Prescription Compounding, Phr 463 | | | 4 |
| Manufacturing Pharmacy, Phr 441 | 3 | | |
| Physiological Chemistry, Ch 461 | | | 5 |
| Business Organization, BA 331 | 3 | | |
| Electives | 1 | 2 | 2 |
| | <hr/> 17 | <hr/> 17 | <hr/> 17 |

THREE-YEAR CURRICULUM IN PHARMACY

(Suggested Program)

First Year

| | | | |
|---|-----------|-----------|-----------|
| General Chemistry, Ch 104, 105, 106 | 5 | 5 | 2 |
| Qualitative Analysis, Ch 131 | | | 3 |
| General Zoology Comparative Vertebrate Zoology, ZP 101, 102, 103 | 3 | 3 | 3 |
| Physics, Ph 111, 112, 113 | 3 | 3 | 3 |
| English Composition, Eng 101, 102, 103 | 3 | 3 | 3 |
| Elementary Pharmacy, Phr 111, 112, 113 | 1 | 1 | 1 |
| Gymnasium, PE 111, 112, 113 | ½ | ½ | ½ |
| Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 16½ | <hr/> 16½ | <hr/> 16½ |

Second Year

| | | | |
|--|-----------|-----------|-----------|
| Organic Chemistry, Ch 226, 227 | 5 | 5 | |
| Physiology and Anatomy, ZP 211, 212, 213 | 3 | 3 | 3 |
| Theoretical Pharmacy, Phr 311 | 4 | | |
| Pharmacognosy, Phr 351, 352 | 2 | 4 | |
| French or German | 3 | 3 | 3 |
| Pharmaceutical Preparations, Phr 343 | | | 3 |
| Pharmaceutical Calculations, Phr 321 | | | 2 |
| Economics, Sociology, Psychology or Political Science | | | 3 |
| Gymnasium, PE 211, 212, 213 | ½ | ½ | ½ |
| Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 18½ | <hr/> 16½ | <hr/> 15½ |

Third Year

| | 1st | Term 2d | 3d |
|--|-----|------------|----|
| Bacteriology Pharmacy Bacteriology, Immunity, and Serum Therapy, Bac 204, 332, 333..... | 3 | 3 | 3 |
| Materia Medica and Toxicology, Phr 451, 452, 453 | 3 | 3 | 3 |
| U. S. Pharmacopoeia and National Formulary, Phr 431, 432, 433 | 3 | 3 | 3 |
| Prescription Lectures, Phr 461 | 3 | | |
| Prescription Incompatibilities, Phr 462 | | 3 | |
| Prescription Compounding, Phr 463 | | | 3 |
| Manufacturing Pharmacy, Phr 441 | 3 | | |
| Alkaloidal Testing, Ch 371 | | 3 | |
| Drug Assaying, Ch 374 | | | 3 |
| Military Science and Tactics | 1 | 1 | 1 |
| Electives | | 2 | |
| | 16 | 18 | 16 |

The above outline is suggested because it is the one generally elected by students taking the three-year curriculum. Not only does it provide for a thorough course in Pharmacy, but it includes all pre-medical subjects required by medical schools for entrance. Upon completion of the work of this course students will be granted the degree of Ph.C., and after completing their medical course they will be recommended for the degree of Bachelor of Science in Pharmacy (B.S.). Students not contemplating a medical course may elect in place of the strictly pre-medical subjects such courses as: Botany, Quantitative Analysis, Food and Drug Analysis, Advanced Organic Chemistry, business courses, etc. All elections, however, must be approved by the Dean.

TWO-YEAR CURRICULUM IN PHARMACY**First Year**

| | 1st | Term 2d | 3d |
|--|-----|------------|-----|
| General Chemistry, Ch 104, 105, 106 | 5 | 5 | 2 |
| Qualitative Analysis, Ch 131 | | | 3 |
| Pharmaceutical Latin, Phr 220 | 3 | | |
| Inorganic Pharmacy, Phr 353 | | | 3 |
| Pharmacognosy, Phr 351, 352 | 2 | 4 | |
| Theoretical Pharmacy, Phr 311 | 4 | | |
| Practical Pharmacy, Phr 333 | | 3 | |
| Pharmaceutical Preparations, Phr 343 | | | 3 |
| Pharmaceutical Calculations, Phr 321 | | | 2 |
| English Composition, Eng 101, 102, 103 | 3 | 3 | 3 |
| Gymnasium, PE 111, 112, 113 | 1½ | 1½ | 1½ |
| Military Science and Tactics | 1 | 1 | 1 |
| | 18½ | 16½ | 17½ |

Second Year

| | 1st | Term 2d | 3d |
|--|------------------|------------------|------------------|
| Organic Chemistry, Ch 226, 227 | 5 | 5 | |
| Materia Medica, Phr 451, 452, 453 | 3 | 3 | 3 |
| U. S. Pharmacopoeia and National Formulary, Phr 431, 432, 433 | 3 | 3 | 3 |
| Prescription Lectures, Phr 461 | 4 | | |
| Prescription Incompatibilities, Phr 462 | | 4 | |
| Prescription Compounding, Phr 463 | | | 4 |
| Manufacturing Pharmacy, Phr 441 | 3 | | |
| Alkaloidal Testing, Ch 371 | | 3 | |
| Drug Assaying, Ch 374 | | | 3 |
| Gymnasium, PE 211, 212, 213 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 1 | 1 | 1 |
| Electives | | | 3 |
| | 19 $\frac{1}{2}$ | 19 $\frac{1}{2}$ | 17 $\frac{1}{2}$ |

COURSES IN PHARMACY

Phr 111. **Elementary Pharmacy.** The purpose of this course is to acquaint entering students of the four-year curriculum with the general scope and purpose of the work they have chosen as a profession. The course deals with the history of Pharmacy and its development, standard pharmaceutical literature, and other elementary phases of Pharmacy.

Required in four-year curriculum in Pharmacy; freshman year; first term; 1 credit; 1 lecture. *A. Ziefle*

Phr 112. **Elementary Pharmacy.** Continuation of Phr 111. Nomenclature of the U. S. Pharmacopoeia; drugs, weights, and measures; elementary pharmaceutical operations.

Required in four-year curriculum in Pharmacy; freshman year; second term; 1 credit; 1 lecture. *A. Ziefle*

Phr 113. **Elementary Pharmacy.** The general processes of drug manufacture considered with the view of familiarizing the student with all pharmaceutical apparatus and methods.

Required in four-year curriculum in Pharmacy; freshman year; third term; 1 credit; 1 lecture. Text: Army, Principles of Pharmacy. *A. Ziefle*

Phr 220. **Pharmaceutical Latin.** Properly trained pharmacists need knowledge of Latin etymology and construction in order to understand the use and terminology of pharmaceutical and medicinal terms. Emphasis is placed upon pronunciation, declension, English translation, comparison, abbreviations, and vocabularies.

Required in Pharmacy; sophomore year; first term; 3 credits; 3 recitations. Text: Sturmer, Pharmaceutical Latin.

H. B. McWilliams

Phr 221. Commercial Pharmacy. The special feature of this course is sign-card painting. Simple lettering is the basis of the work for the first part of the course; later simple signs are designed.

Elective in Pharmacy; any term; 2 credits; 2 three-hour laboratory periods. Fee \$3.50. Deposit \$0.50.

M. O. Rawson

Phr 222. Commercial Pharmacy. A continuation of Phr 221 with the added feature of designing sign-cards in colors and painting on cloth, canvas, and glass.

Elective in Pharmacy; any term; 2 credits; 2 three-hour laboratory periods. Fee \$0.50.

M. O. Rawson

Phr 223. Commercial Pharmacy. A continuation of Phr 222 with work in shading with the air brush and other methods of the art of display.

Elective in Pharmacy; any term; 2 credits; 2 three-hour laboratory periods. Fee \$0.50.

M. O. Rawson

Phr 311. Theoretical Pharmacy. Systematic study of the processes in operative pharmacy; study of standard pharmaceutical books, weights and measures, heat, distillation, solution, extraction in its various forms, and other processes used in the manufacture of galenical preparations.

Required in Pharmacy; junior year; first term; 4 credits; 2 lectures; 2 recitations. Text: Arny, Principles of Pharmacy.

A. Ziefle

Phr 321. Pharmaceutical Calculations. Study of calculations common to pharmacy; weights and measures; percentage solutions; allegation; specific gravity; thermometers.

Prerequisites: Phr 311; Ch 104, 105. Required in Pharmacy; junior year; third term; 2 credits; 1 lecture; 1 recitation. Text: Stevens, Pharmaceutical Arithmetic.

M. O. Rawson

Phr 333. Practical Pharmacy. Natural products used in pharmacy explained and demonstrated; study of the various types of galenical preparations as outlined in Part II of Arny's Principles of Pharmacy.

Prerequisites: Phr 311; Ch 104, 105. Required in Pharmacy; junior year; second term; 3 credits; 2 lectures; 1 recitation. Texts: Arny, Principles of Pharmacy. Ruddiman, Why's in Pharmacy.

A. Ziefle

Phr 343. Pharmaceutical Preparations. Laboratory work in the preparation of simple galenicals, such as waters, pills, emulsions, and extracts. All work is under supervision of instructors, and the

finished products are carefully inspected in order to prevent inaccuracies and to insure neatness. Frequent identification examinations of preparations are held to familiarize students with the characteristics of the drugs they use.

Prerequisites: Phr 333; Ch 104, 105. Required in Pharmacy; junior year; third term; 3 credits; 3 three-hour laboratory periods. Texts: U. S. Pharmacopoeia. National Formulary. Fee \$7.00. Deposit \$1.00. *M. O. Rawson*

Phr 351. **Pharmacognosy.** Study of animal and vegetable drugs with reference to their habitat, botanical classification, official titles, synonyms, constituents, uses, identification, and standardization.

Prerequisites or parallel: Phr 311; Ch 106, 131. Required in Pharmacy; junior year; first term; 2 credits; 1 lecture; 1 recitation. Texts: Culberth, Materia Medica. Lilly, Organic Drugs. Fee \$1.50. *H. B. McWilliams*

Phr 352. **Pharmacognosy.** A continuation of Phr 130.

Required in Pharmacy; junior year; second term; 4 credits; 2 lectures; 2 recitations. Texts: Culberth, Materia Medica. Lilly, Organic Drugs. Fee \$1.50. *H. B. McWilliams*

Phr 353. **Inorganic Pharmacy.** Inorganic chemicals and their preparations used in medicine. Part III of Army's Principles of Pharmacy is used as a lecture outline for the course. In the laboratory students make representative samples of certain types of chemicals, testing for such impurities as arsenic, lead, antimony, and study authentic samples of inorganic drugs for identification purposes.

Prerequisites: Phr 333, 343; Ch 104, 105. Required in Pharmacy; junior year; third term; 3 credits; 1 lecture; 1 recitation; 1 three-hour laboratory period. Text: Army, Principles of Pharmacy. Fee \$4.00. Deposit \$1.00. *M. O. Rawson*

Phr 431. **U. S. Pharmacopoeia and National Formulary.** Every substance listed in the United States Pharmacopoeia and National Formulary as well as many unofficial drugs and preparations in the dispensaries are studied. Emphasis is placed on composition, uses, methods of manufacture, reasons for each step in the process of manufacture, and all other important data concerning the drug.

Prerequisites: Phr 333, 343; Ch 106, 131. Senior year; first term; 3 credits; 1 lecture; 2 recitations. Texts: U. S. Pharmacopoeia. National Formulary. Ruddiman, Why's in Pharmacy. *A. Ziefle*

Phr 432. **U. S. Pharmacopoeia and National Formulary.** A continuation of Phr 431, with frequent reports on all pharmaceutical literature especially as regards the newer remedies proposed since the last revision of the U. S. P. and N. F.

Prerequisites: Phr 431, Ch 226. Senior year; second term; 3 credits; 1 lecture; 2 recitations. Texts: U. S. P. and N. F.

A. Ziefle

Phr 433. U. S. Pharmacopoeia and National Formulary. A continuation of Phr 432 with the added feature of preparing students for the State pharmacy examinations. In addition to a complete review of all pharmacy subjects and the study of typical state board questions, students are grounded in pharmaceutical legislation, identification of drugs and preparations, as well as in other subjects which will prepare students not only for the state examinations but for efficient service in practical drug-store work.

Prerequisite: Phr 432. Senior year; third term; 3 credits; 1 lecture; 2 recitations. Texts: U. S. P. and N. F.

A. Ziefle

Phr 441. Manufacturing Pharmacy. This course is a continuation of the course in Pharmaceutical Preparations and deals with the manufacture of the more difficult pharmaceuticals involving complex chemical reactions. Students assay their own products when practicable.

Prerequisites: Phr 333, 343; Ch 106, 131. Required; senior year; first term; 3 credits; 3 three-hour laboratory periods. Texts: U. S. P. and N. F. Fee \$7.00. Deposit \$1.00.

M. O. Rawson

Phr 451. Materia Medica. Study of the action and uses of chemicals, drugs, and their preparations, in the human organism, in health and disease; drugs classified into groups according to their action; the dose of medicines; toxicology from the point of view of action of poisons, their absorption, elimination, identification, and antidotes.

Prerequisites: Phr 343, 352; Ch 106, 131. Required in Pharmacy; senior year; first term; 3 credits; 1 lecture; 2 recitations. Text: Cushny, Pharmacology.

H. B. McWilliams

Phr 452. Materia Medica. A continuation of Phr 451.

Prerequisites: Phr 451, Ch 226. Required in Pharmacy; senior year; second term; 3 credits; 1 lecture; 2 recitations. Text: Cushny, Pharmacology.

H. B. McWilliams

Phr 453. Materia Medica. A continuation of Phr 141 with preparation for state board examinations in this subject. State and national laws receive special attention.

Prerequisite: Phr 452. Required in Pharmacy; senior year; third term; 3 credits; 1 lecture; 2 recitations. Text: Cushny, Pharmacology.

H. B. McWilliams

Phr 461. Prescription Lectures. Theory of prescription compounding practically as outlined in Scoville's Art of Compounding. The aim is to give such theoretical instruction as will enable the

student to devise the best method of compounding drugs. Special attention is given to the "newer remedies" and such proprietaries as are used extensively.

Prerequisites: Phr 343, 352, 353; Ch 106, 131. Required in Pharmacy; senior year; first term; 4 credits; 2 lectures; 2 recitations. Text: Scoville, Art of Compounding. *M. O. Rawson*

Phr 462. **Prescription Incompatibilities.** Several hundred incompatible prescriptions studied from the point of view of the cause of the incompatibility as well as the best method of overcoming the same; current pharmaceutical and medical literature abstracted in order that students may become familiar with the reactions of the newer remedies.

Prerequisites: Phr 461, Ch 226. Required in Pharmacy; senior year; second term; 4 credits; 2 lectures; 2 recitations. Text: Ruddiman, Incompatibilities in Prescriptions. *M. O. Rawson*

Phr 463. **Prescription Compounding.** In this course the students are expected to apply the principles learned in Phr 461 to the actual compounding of prescriptions. Over one hundred prescriptions are compounded, representing all types generally met with in actual practice. The latter part of the course deals with the management of a prescription department, the compounding of toilet and domestic preparations, as well as many other methods common to a pharmacy.

Prerequisites: Phr 462; Ch 227. Required in Pharmacy; senior year; third term; 3 credits: 3 three-hour laboratory periods. Text: Scoville, Art of Compounding. Fee \$7.00. Deposit \$1.00.

A. Ziefle, M. O. Rawson

SCHOOL OF VOCATIONAL EDUCATION

WILLIAM JASPER KERR, D.Sc., President of the College.

EDWIN DEVORE RESSLER, A.M., Dean of the School of Vocational Education; Professor of Education.

CLYTIE MAY WORKINGER, Secretary to the Dean.

FRANK HENRY SHEPHERD, A.M., Professor of Industrial Education.
———, Professor of Agricultural Education.

JESSE FRANKLIN BRUMBAUGH, LL.B., A.M., Professor of Psychology.

BERTHA STEWART DAVIS, M.S., Associate Professor of Home Economics Education.

HATTY ROSELLE DAHLBERG, M.S., Assistant Professor of Home Economics Education.

———, Assistant Professor of Commercial Education.

AMBROSE REUBEN NICHOLS, B.S., Instructor and Critic Teacher in Industrial Education.

LURA AMELIA KEISER, B.S., Critic Teacher in Home Economics Education.

EARL DEWITT DOXSEE, B.S., Instructor and Critic Teacher in Agricultural Education.

GLADYS WHIPPLE, B.S., Critic Teacher in Home Economics Education.

The chief function of the School of Vocational Education is to train teachers of the following vocations: Agriculture, Commerce, Home Economics, and the Trades and Industries. The School also offers opportunity for all teachers and students in the College to secure professional improvement with regard to teaching and related lines of service, such as extension work.

There is a demand at this time for vocational teachers who are able to meet the standards set by the State Board for Vocational Education in accordance with the requirements of the Smith-Hughes Act. Teachers meeting these requirements, and securing positions under direction of the State Board, receive one-half their salaries from Federal and State funds. The School of Vocational Education has been designated by the Board to train such teachers.

Inasmuch as training in the chosen technical field should constitute the major portion of an undergraduate course of study, students register and take their degrees in the corresponding technical school. Prospective teachers of Agriculture thus pursue the curricu-

lum of the School of Agriculture, with a minor in Agricultural Education; similarly, prospective teachers of Home Economics, Commerce, or Manual Training register in the respective schools of Home Economics, Commerce, or Engineering, carrying a corresponding minor in the School of Vocational Education.

The School of Vocational Education makes provision for giving further professional training to teachers in service and pedagogical training to men and women who already have technical knowledge and skill in a particular trade and desire training in teaching in that field. The College offers special opportunities to graduates of normal schools and schools of education, with teaching experience, for technical training in some line of vocational education or for special training in teaching and supervising vocational subjects.

Students are advised to consider carefully the selection of teaching as a vocation. Thorough scholarship and fair command of spoken and written English are fundamental essentials for success in the vocation of teaching. Personality, character, and professional aptitude are demanded of the teacher. Positions cannot be guaranteed to graduates, and only capable candidates will be recommended for teaching positions.

The Oregon School Law grants a high-school teaching certificate to graduates who have taken fifteen semester credits, or twenty-two and one-half term credits, in Education. Students preparing as vocational teachers under the Smith-Hughes Act should become familiar with the State requirements for teachers of the particular vocation they are intending to teach.

Equipment. The technical courses of the School of Vocational Education are given in the Schools of Agriculture, Commerce, Engineering, and Home Economics, making available all their equipment to the students and instructors in the School of Vocational Education. The instructors in the professional courses in Education also use this equipment. For the courses in practice teaching, there is available, in addition, the equipment of the Corvallis public schools through a joint arrangement between the Corvallis Board of Education and the Board of Regents of the College.

AGRICULTURAL EDUCATION

The function of this department is to train men and women as teachers and supervisors of Agriculture in elementary and secondary schools, and to develop leadership in rural life and education. Special attention is given to training of directors, supervisors, and teachers of Vocational Agriculture as provided for by the Federal law for vocational education known as the Smith-Hughes Act.

For the prescribed courses in the freshman and sophomore years consult pages 82 and 84. For graduation in Agriculture with a minor in Agricultural Education, at least fifty percent of a student's credits should be in agricultural and related science subjects, including Farm Mechanics, Animal Husbandry, Soils and Crops, Horticulture, Farm Management. Not less than twenty-three and a half term credits shall be in Education, including Educational Psychology, Introduction to Education, Vocational Education, Secondary Education in Agriculture, and Practice Teaching. All subjects in the junior and senior years must be selected with the counsel of the professor of Agricultural Education.

COURSES

AEd 401. Secondary Education in Agriculture. Aims, materials, and methods relating to the teaching of vocational agriculture in the secondary school.

Prerequisites: Ph 322, Ed 302. Required in Agricultural Education; senior year; first or third term; 3 credits; 2 recitations; ½-hour laboratory period. *E. D. Dorse*

AEd 402. Secondary Education in Agriculture. Continuation of AEd 401.

Prerequisite: AEd 401 or equivalent. Required in Agricultural Education; senior year; second term; 3 credits; 2 recitations; ½-hour laboratory period.

AEd 412. Practice Teaching in Secondary Agriculture.

Prerequisites: AEd 401, 402. Required in Agricultural Education; senior year; any term; 3 credits; 3 double periods.

E. D. Dorse

AEd 413. Practice Teaching in Secondary Agriculture. Continuation of AEd 412.

Prerequisite: AEd 412 or equivalent. Required in Agricultural Education; senior year; third term; 3 credits; 3 double periods.

AEd 421, 422. Elementary Education in Agriculture. Aims, materials, and methods of teaching and supervising pre-vocational agriculture and elementary science in the upper elementary grades or junior high school.

Elective; junior or senior year; first and second terms; 3 credits each term; 2 recitations; $\frac{1}{2}$ -hour laboratory period.

AEd 431. **Rural Education.** A consideration of the school in its relations to other educational agencies in rural communities.

Elective; junior or senior year; second term; 3 credits; 3 recitations.

AEd 432. **Club Work.** A lecture course in club work, for the training of paid county club leaders, covering the history and scope of the work and its organization, projects, program of work, records, reports, and training of judging and demonstration teams.

Elective; junior or senior year; 2 credits; first or second term; 2 recitations.

AEd 433. **General Agriculture for Teachers.** The subject-matter as covered by the State course of study and the texts adopted for both elementary and high schools; methods of teaching developed in their application.

Elective; junior or senior year; 3 credits; first or third term; 2 recitations; 1 double period laboratory and field work.

HEd 443. **Extension Methods.** General methods of extension work in agriculture and home economics. For prospective agricultural and home demonstration agents, club leaders, and other extension workers. (See HEd 443, page 289.)

AEd 482, 483. **Seminar in Agricultural Education.** A discussion of special problems in the teaching of agriculture and in the administration of agricultural education.

Required of graduate students and elective for seniors in Agricultural Education; second and third terms; time and credits to be arranged.

COMMERCIAL EDUCATION

The department of Commercial Education has been organized to meet the steadily growing demand for well-equipped teachers of commercial branches in secondary schools. Such teachers are prepared in cooperation with the School of Commerce. The curriculum in the School of Commerce leading to the degree of Bachelor of Science, makes possible reasonable preparation for commercial teaching. In the selection of their collegiate courses from the studies listed in the School of Vocational Education, students should advise with the head of the department of Commercial Education. This department provides an equipment for teachers of commercial science in secondary schools that will place them and their work on a parity with those of other longer established and more fully developed departments of the high school.

The twenty-two and one-half credits in Education required for a certificate to teach in four-year high schools, issued without examination, may be earned during the college course, preferably in the junior and senior years. Vocational Psychology and Introduction to Education should be taken before any methods course. The required Education courses must include one course in Secondary Education in Commerce and one course in Practice Teaching in Commerce, the latter in the senior year. Practice teaching, under supervision and direction, is done in a public high school where conditions are normal and the practice real.

COURSES

CEd 451. Secondary Education in Commerce. Principles of education as applied to the teaching of shorthand, typewriting, business English, and bookkeeping in high schools; rapid review of subject-matter with model lessons in each subject; lectures covering aims, materials, methods of presentation, organization of courses, and arrangement of curriculum.

Prerequisites: OT 203, BA 103, Psy 301 or 312, Ed 302. Required of students preparing to teach stenographic subjects; junior year (third term) or senior year (first term); 3 credits; 3 lectures.

J. J. Corcoran

CEd 452. Secondary Education in Commerce. Same as CEd 451, with special methods in teaching Accounting, Business Law, Economics, and Commercial Geography.

Prerequisites: BA 203, PS 202, ES 203, Psy 301 or Ed 302, Psy 312. Required of students preparing to teach accounting subjects; senior year; first or second term; 3 credits; 3 lectures.

J. J. Corcoran

CEd 461. Practice Teaching in Commerce. Facilities are afforded students in Commercial Education to secure experience in teaching classes in stenographic subjects.

Prerequisite: CEd 451. Elective; senior year; any term; 5 credits; 1 lecture; 5 double periods. *J. J. Corcoran*

CEd 462. Practice Teaching in Commerce. Same as CEd 461, with practice teaching in subjects of accounting group.

Prerequisites: CEd 452. Elective; senior year; any term; 5 credits; 1 lecture; 5 double periods. *J. J. Corcoran*

CEd 470. Organization and Administration of Commercial Education. This course is planned for individuals who aspire to attain administrative positions in the field of commercial education. Following is a partial list of topics discussed: objective evidence of the need of commercial education; analysis of business needs; business problems; employment; office training; types of commercial schools; educational store service; salesmanship; office experience through a cooperative plan; constructive supervision; the relation of the Federal Government to the administration of Commercial Education.

Prerequisites: CEd 451, 452. Elective; senior year; any term; 3 credits; 3 lectures. *J. J. Corcoran*

EDUCATION

This department gives general courses in Education upon which courses in special methods are based. The courses are open to all students prepared to take them.

COURSES

Ed 302. Introduction to Education. Brief discussion of the meaning, function, and scope of education; organization and function of each division of the American system; school and class management; general method; all with particular reference to the vocational teacher.

Required; junior year; any term; 2 credits; 2 recitations.

E. D. Ressler

Ed 313. Principles of Teaching. Application of the laws of psychology to teaching; type lessons, lesson plans, supervised study, measuring results; application of general principles to the teaching of vocational subjects.

Elective; junior year; first or third term; 2 credits; 2 recitations.

E. D. Ressler

Ed 323. Vocational Education. Arranged to meet the needs of those preparing to teach any phase of vocational education. History and function of vocational education; development in the United States; requirements of Federal-aided schools and departments under the Smith-Hughes Act.

Required; junior year (third term) or senior year (first or second term); 2 credits; 2 recitations.

F. H. Shepherd

Ed 341. History of Education. A general review of the growth and development of education and its relation to the civilization of the times; particular attention given to the rise of industrial education in Europe and America, and its place in the social and political life of the country.

Elective; sophomore or junior year; first term; 3 credits; 3 recitations.

J. F. Brumbaugh

Ed 431. Vocational Guidance. An investigation of the means and methods of assisting pupils of upper grammar grades and high school in studying the problems of their future vocations; studies of occupations with essential qualifications for success in leading types; value of "life career" motive in education; survey of state and local resources as guides to choice, etc.

Elective; junior or senior year; second term; 2 credits; 2 recitations.

F. H. Shepherd

Ed 452. **School Administration.** A discussion and analysis of the American system of education, with an interpretation of the purpose and spirit of each division; problems of administration and teaching: correlation of the vocational branches with other subjects in the curriculum.

Elective; advanced or graduate students; second term; 2 credits; 2 recitations. *E. D. Ressler*

Ed 461. **School Hygiene.** A course in the health provisions requisite for the hygienic conduct of education. Oregon laws, regulations of the State Board of Health, and other State and local authorities explained in detail.

Elective; advanced or graduate students; first term; 2 credits; 2 recitations.

Ed 491, 492, 493. **Investigation.** Advanced or graduate students qualified by previous training or experience may register for extended investigation of some specific problem in vocational education. These studies are assigned and outlined by the instructor and stated reports are made from time to time by the student.

Elective; advanced or graduate students; three terms; credits to be arranged.

HOME ECONOMICS EDUCATION

The function of this department is to give professional training to prospective teachers and extension workers in Home Economics.

(For the four-year curricula leading to the bachelor's degree in Home Economics see pages 240-245.)

COURSES

HEd 304. Secondary Education in Home Economics. A brief history of Home Economics instruction and of the development of elementary and secondary Home Economics; equipment and organization of Home Economics departments; a careful study of the means and methods of Home Economics instruction; outlines of course of study.

Required of all students preparing to teach Home Economics; junior year (second or third term) or senior year (first term); 3 credits; 3 recitations.

Hatty R. Dahlberg

HEd 305. Secondary Education in Home Economics. Observations of teaching, making of lesson plans; study of special problems and the preparation and collection of illustrative material.

Prerequisites: HEd 304, Psy 301. Required of all students preparing to teach Home Economics; junior year (third term) or senior year (first or second term); 3 credits; 3 recitations.

Hatty R. Dahlberg

HEd 421. Practice Teaching in Home Economics. Observation and teaching under supervision. Teaching field includes grades and high school in city, small town, and rural district. Cadet or apprentice positions provide additional experience.

Prerequisite: HEd 303. Required of all students preparing to teach Home Economics; senior year; any term; 5 credits; 2 recitations, 5 double periods.

Hatty R. Dahlberg, Lura Keiser

HEd 443. Extension Methods. This course is planned to give to successful teachers and others qualified and interested in extension work, the extension aim and point of view, presenting a discussion of organization and administration, executive problems, relationships, methods of work, and programs.

Elective; senior year; third term; 2 credits; 2 lectures; 4 hours outside preparation.

Anna Turley

HEd 451. Home Economics Seminar. The most recent works in the field of Home Economics instruction are reviewed and discussed.

Open only to students preparing to teach Home Economics: senior or graduate year; any term; 2 credits.

Bertha S. Davis

INDUSTRIAL EDUCATION

This department gives professional training to teachers of the trades and industries, Manual Training, and Industrial Arts. Although the College does not give technical training for all the trades and industries, this department makes provision for giving further professional training to teachers in service and pedagogical training to men and women who have technical knowledge and skill in particular trades which they propose to teach. Courses are given in Portland as well as in Corvallis. Those who are contemplating training for teaching the trades and industries should make inquiry concerning the particular line in which they may be interested. The institution is prepared at the present time to give training in the following trades: plumbing, foundry work, blacksmithing, carpentry, cabinetmaking and machine-shop practice.

COURSES

IEd 303. Special Methods in Trades and Industries. The organization, administration, and teaching of industrial subjects to conform to the requirements of the Smith-Hughes Act; investigation into the values of different elements of selected trades or industries for the purpose of selecting a well-balanced course of study; lectures, readings, discussions, and written reports.

Prerequisites: Psy 301 or 312, Ed 302. Required of students preparing to teach a trade or industry; junior year (third term) or senior year (first term); 4 credits; 4 recitations. *F. H. Shepherd*

IEd 343. Special Methods of Manual Training. A careful, detailed study of the public-school course of study in Manual Training in its various relations; model courses of study for both elementary and secondary grades outlined; plans for desirable equipment for shop and class room.

Prerequisites: Psy 301 or 312, or Ed 302. Required in Industrial Arts; junior year (third term) or senior year (first term); 4 credits; 4 recitations. *F. H. Shepherd*

IEd 382. Theory and Practice of Elementary Manual Arts. For supervisors of industrial arts in the lower grades. Investigation of the present trend of the manual arts movement; arrangement of a suggestive course of study; plan of equipment; ordering of supplies, etc.; lectures, assigned readings, reports, and practical shop work.

Required in Industrial Arts; elective to others; junior or senior year; second term; 3 credits; 2 recitations; 1 two-hour laboratory period. *A. R. Nichols*

IEd 421. Practice Teaching in Trades and Industries. The student is required to arrange and submit definite plans and outlines of the subject, job, or lesson to be taught. Reports to the director, supervisor, or critic teacher are made for the purpose of perfecting the student teacher in the technique of the trade of teaching.

Prerequisite: IEd 303. Required of students preparing to teach a trade or industry; senior year; first or third term; 5 credits; 1 recitation; 5 double periods.

A. R. Nichols

IEd 461. Practice Teaching in Manual Training. Required of all seniors in Industrial Arts.

Prerequisite: IEd 343. Required in Industrial Arts; senior year; any term; 5 credits; 1 recitation; 5 double periods.

A. R. Nichols

PSYCHOLOGY

This department gives the courses in Psychology upon which the studies in education are built and such other courses as directly affect human behavior. All courses are elective to students prepared to take them.

COURSES

Psy 301. Elementary Psychology. A preparatory course in the fundamentals of mental life from the functional standpoint; emphasis upon the application of psychological laws to the ordinary affairs of life.

Required; junior year; any term; 3 credits; 3 lectures.

J. F. Brumbaugh

Psy 312. Vocational Psychology. Application of psychological laws to the active pursuits of life; the field of habit in relation to skill and economy; perception in relation to accuracy in space discrimination; color, weight, shape, and tactile sensations; motor response in relation to stimulation, coordination, and inhibition; memory, suggestion, and imitation in relation to business pursuits; the psychology of commerce as it develops in the relation of man to man, of trust and faith in human affairs, modes of activity, etc.

Required for prospective Smith-Hughes teachers; junior or senior year; first or third term; 3 credits; 3 lectures.

J. F. Brumbaugh

Psy 322. Educational Psychology. Follows Psy 301. Principles and laws of mental life and development as applied to the teaching process; psychological value of the various methods and paraphernalia of school life.

Required; junior year; second or third term; 3 credits; 3 lectures.

J. F. Brumbaugh

Psy 433. The Child Mind. Consideration of the physical and mental development of the child in the various stages; aspects and inter-relations, hygienic and moral sides receiving special attention.

Prerequisite: Psy 301. Elective; junior or senior year; second term; 2 credits; 2 lectures.

J. F. Brumbaugh

Psy 473. Principles of Education. This course expounds the general problem of education and the merits and demerits of the various theories of education as they have succeeded each other, together with the numerous principles which have sprung from such doctrines and the modern reinterpretations of aims and practices connected therewith.

Elective; junior or senior year; second term; 2 credits; 2 lectures.

J. F. Brumbaugh

Eth 482. Ethics. Meaning of our moral conceptions and principles; why they are binding; whence they are derived; a consideration of every-day customs and practices in the light of these principles; study of professional codes.

Elective; junior or senior year; second or third term; 3 credits; 3 lectures.

J. F. Brumbaugh

SERVICE DEPARTMENTS

WILLIAM JASPER KERR, D.Sc., President of the College.

MAHLON ELLWOOD SMITH, Ph.D., Dean of the Service Departments;
Director of the Summer Session.

WILLA HUGHES, Secretary to the Dean.

FREDERICK BERCHTOLD, A.M., Professor of English Language and Literature.

JOHN B. HORNER, A.M., Litt.D., Professor of History.

JOHN FULTON, M.S., Professor of General Chemistry; Director of Chemical Laboratories.

CHARLES LESLIE JOHNSON, B.S., Professor of Mathematics.

FARLEY DOTY McLOUTH, B.S., Professor of Art and Rural Architecture.

LOUIS BACH, A.M., Professor of Modern Languages.

GEORGE FRANCIS SYKES, A.M., Ph.D., Professor of Zoology and Physiology.

WILLIAM BALLANTYNE ANDERSON, M.S. Ph.D., Professor of Physics.

HOWARD PHILLIP BARSS, A.M., M.S., Professor of Botany and Plant Pathology; Chief in Botany and Plant Pathology.

LESTER LOVETT, B.S., Professor of Entomology; Chief in Entomology, Experiment Station.

SHIRLEY JONES, M.S., Professor of Agricultural Chemistry; Experiment Station Chemist.

GODFREY VERNON COPSON, M.S., Professor of Bacteriology.

WILLIBALD WENIGER, Ph.D., Professor of Physics.

IDA BURNETT CALLAHAN, B.S., Associate Professor of English.

WINFRED MCKENZIE ATWOOD, Ph.D., Associate Professor Plant Physiology.

EDWARD BENJAMIN BEATY, B.S., M.A., Associate Professor of Mathematics.

WILLIAM EVANS LAWRENCE, B.S., Associate Professor of Plant Ecology.

CHARLES ELMER OWENS, A.M., Associate Professor of Plant Pathology.

FRANK HEIDTMAN LATHROP, M.S., Associate Professor of Entomology.

FREDERICK CHARLES KENT, A.B., Associate Professor of Mathematics.

NICHOLAS TARTAR, B.S., Assistant Professor of Mathematics.

SIGURD HARLAN PETERSON, B.A., Assistant Professor of English.

LOREN BURTON BALDWIN, A.M., Assistant Professor of English.

HELEN MARGARET GILKEY, Ph.D., Assistant Professor of Botany; Curator of the Herbarium.

JOHN FREDERICK GROSS HICKS, Ph.D., Assistant Professor of General Chemistry.

WILLIAM HODGE, M.A., Assistant Professor of Organic Chemistry.

HARRY LYNDEN BEARD, B.S., Assistant Professor of Mathematics; Director of Cadet Band.

HAROLD WILLIAM SHOENBERGER, M.A., Assistant Professor of English Language and Literature.

WILLARD JOSEPH CHAMBERLIN, B.S., Assistant Professor of Entomology and Forest Entomologist.

HOWARD MARSHALL WIGHT, B.S., Assistant Professor of Zoology and Physiology.

WILLIAM VERNAL HALVERSEN, M.S., Assistant Professor in Bacteriology.

JOSEPH ELLSWORTH SIMMONS, M.S., Assistant Professor of Bacteriology.

HAROLD KELLY, B.S., Instructor in Agricultural Chemistry.

ETHEL TAYLOR, A.B., Instructor in Modern Languages.

VALDA EVELINE SMITH, A.B., Instructor in Chemistry.

ARDIS THOMAS MONK, S.B., Instructor in Physics.

ETHEL ANN JONES, M.A., Instructor in General Chemistry.

JOSEPH WARREN SEVERY, A.B., Instructor in Botany and Plant Pathology.

JOHN ALBERT VAN GROOS, M.S., Instructor in Mathematics.

- NORMA OLSON, Instructor in English.
- MACKINLEY HELM, A.B., Instructor in English.
- FREDERICK HENRY BERNS, Instructor in Art and Rural Architecture.
- ROBERT WAYNE UPHOFF, A.B., Instructor in Physics.
- ARAVILLA TAYLOR, A.B., Ph.D., Instructor in Zoology and Physiology.
- CLAUDE MILTON NEWLIN, A.B., Instructor in English.
- JOHN CHARLES REEDER, B.S., Instructor in Agricultural Chemistry.
- HERBERT WASHINGTON MARKER, Ph.B., M.A., Instructor in Physics.
- ELSA HORN, B.A., Instructor in Botany and Plant Pathology.
- MELISSA MARGARET MARTIN, A.B., B.S., Instructor in Modern Languages.
- MAIMIE MARTENS, B.S., Instructor in Mathematics.
- VIOLA DINGER, Instructor in Mathematics.
- CARL NAETHER, B.A., Instructor in English.
- WILLIAM ANDERSON SMART, B.S., Research Assistant in Horticulture and Entomology.
- ————, Instructor in Organic Chemistry.
- ————, Instructor in Physics.
- BENTLEY FULTON, M.S., Assistant in Entomology.
- PENNOYER FRANCIS ENGLISH, B.S., Fellow in Zoology and Physiology.
- JAMES OWEN FOLEY, B.S., Fellow in Zoology and Physiology.
- WYLLIAN DUNNING, Clerk to the department of Botany and Plant Pathology.

For administrative purposes the following departments, the chief function of which is to serve the interests of students registered in the various schools of the College, are organized under the direction of the Dean of the Service Departments. The scope and facilities of the work in Art and Rural Architecture, Bacteriology, Botany and Plant Pathology, Chemistry, English Language and Literature, Entomology, History, Mathematics, Modern Languages, Physics, and Zoology and Physiology, are discussed under the respective departmental headings.

ART AND RURAL ARCHITECTURE

Art. The department of Art and Rural Architecture offers no regular courses in Art with the idea of instruction in the fine arts alone, but rather as art education relates to the highest ideals in everyday life, and meets the requirements of the industries, dress, and the home. Courses in drawing, composition, design, and color are offered for the purpose of facilitating instruction in the applied arts courses in design, metal work, clay modeling, and the ceramic arts, and in the work of such other departments as Landscape Gardening, Household Art, and Industrial Arts. The courses offered not only develop utilitarian ideas, but they also cultivate an appreciation of the beautiful in nature and art.

Rural Architecture. The courses in Architecture are offered primarily to students in Agriculture, Home Economics, and Engineering. All students, however, who are interested in domestic or rural architecture, may elect courses which they are prepared to take. The work is especially adapted to meet the utilitarian requirements of the various departments and to serve these departments in an able manner. The courses consist of problems in the design and construction of buildings and a consideration of building materials.

Equipment. The department occupies commodious, well-lighted studios on the fourth floor of Agricultural Hall, drafting rooms on the third floor of Science Hall, a metal-working laboratory, and a clay-modeling and pottery studio in the Mines Building. The studios have north light, are well heated and ventilated, and are equipped with studio and laboratory accessories, such as casts, still life, prints, and tools. The department is also well supplied with wall drawings, pictures, and portfolios illustrating the different phases of the work.

The College Library has a carefully selected and growing reserve in art and architecture, covering all branches of these subjects.

COURSES

ART

A 110. **Drawing.** Free-hand drawing of still life, decorative textiles and costumes, developing the principles of representation in line and light and shade, by use of pencil, charcoal, and brush and ink. A note-book on historic ornament is made by each pupil.

Required in Home Economics; freshman year; first term; 4 credits; 1 lecture; 1 recitation; 3 two-hour studio periods. Fee \$0.50.

Ethel Stilz, F. H. Berns

A 120. Design. The elements of design construction and their application to problems of dress and home decoration are made the basis of this course. A note-book is required of each pupil.

Prerequisite: A 110, or equivalent. Required in Home Economics; freshman year; second term; 4 credits; 1 lecture; 1 recitation; 3 two-hour studio periods. Fee \$0.50.

A 130. The Theory and Harmony of Color. This course covers study of the so-called primary colors, the development of the prismatic colors with their complements, color quality, color values, and the various harmonies. Problems are rendered in original color harmonies, and in the use of nature color and color prints. These problems are an application of appropriate color schemes as applied to articles of household use, dress, and home interiors.

Prerequisites: A 110, 120. Required in Home Economics; sophomore year; third term; 4 credits; 1 lecture; 4 two-hour studio periods. Fee \$0.50.

F. D. McLouth

A 211. Industrial Arts Drawing. Free-hand perspective and free-hand drawing of furniture and other articles, machine parts, and drawing from written descriptions.

Required in Industrial Arts; sophomore year; first term; 2 credits; 3 two-hour studio periods. Fee \$0.50.

F. D. McLouth

A 221. Industrial Arts Design. A course in the principles of design suited to the Industrial Arts Curriculum. Original design plates for door and cabinet paneling, metal parts, hinges, escutcheons, draw pulls, etc., and furniture.

Prerequisite: A 211. Required in Industrial Arts; sophomore year; second term; 2 credits; 3 two-hour studio periods. Fee \$0.50.

F. D. McLouth

A 241. Applied Design and Color. An elective offered to give broader working knowledge of design principles which may serve as a guide to selection and adaptation for practical application in the home. Problems in design and execution are required.

Prerequisites: A 110, 120, and 230. Elective; second term; 2 credits; 3 two-hour studio periods. Fee \$0.50.

F. D. McLouth

A 242. Applied Design and Color. A continuation of A 241.

Prerequisite: A 241. Elective; second or third term; 2 credits; 3 two-hour studio periods. Fee \$0.50.

F. D. McLouth

A 251. Pencil and Pen Rendering. Pencil and pen technique; use of the pencil and pen in the expression of landscape gardening subjects; sketching; pencil drawing as used under washes; studio and out-of-doors work.

Required in Landscape Gardening; sophomore year; third term; 2 credits; 3 two-hour periods. Fee \$0.50. *F. D. McLouth*

A 331. **Water Color.** The courses in water color are offered as electives and are open to any students who have completed courses A 110, 120, and 130, or their equivalent. The work of the first term includes simple flat washes of geometric casts and flat color washes of still-life subjects.

Elective; sophomore, junior, or senior year; any term; 2 credits; 3 two-hour studio periods. Fee \$0.50. *F. D. McLouth*

A 332. **Water Color.** A continuation of A 331, taking up more complex still-life subjects, posters, and landscape.

Prerequisite: A 331. Elective; sophomore, junior, or senior year; any term; 2 credits; 3 two-hour studio periods. Fee \$0.50. *F. D. McLouth*

A 341. **Clay Modeling and Pottery.** Study of modeling and making pottery; modeling from nature; tile building; mold and cast making in plaster; firing and glazing.

Prerequisites: A 110 and 120, or equivalent. Elective; junior or senior year; first term; 2 credits; 3 two-hour studio periods. Fee \$1.00.

A 342. **Clay Modeling and Pottery.** A continuation of A 341, with more advanced work and more time given to clay modeling.

Prerequisites: A 110, 120, 130, or equivalent, and A 341. Elective; junior or senior year; second term; 2 credits; 3 three-hour studio periods. Fee \$1.00.

A 351. **Water Color Rendering.** Color theory; brush technique; flat washes over pencil; use of water color washes in the expression of landscape gardening subjects.

Prerequisite: A 251. Required in Landscape Gardening; junior year; second term; 3 credits; 4 two-hour periods and 1 one-hour period. Fee \$0.50. *F. D. McLouth*

A 352. **Water Color Rendering.** Continuation of A 351. Application of color theory; rendering color washes of more complex landscape gardening subjects. Later in the term opportunity is given for out-of-doors sketching in water color.

Prerequisite: A 351. Required in Landscape Gardening; junior year; third term; 3 credits; 4 two-hour periods and 1 one-hour period. Fee \$0.50. *F. D. McLouth*

A 441, 442, 443. **Jewelry Making.** The work of the first term is given over to the processes of sawing, hard and soft soldering, stone setting, and chain making. Copper, German silver, and sterling silver are used in the first pieces. In the second term a prob-

lem in enameling, and the use of the graver are included. In the third term carving and the various methods of stone setting are studied.

Prerequisite: A 120 or equivalent. Elective; three terms; 2 credits each term; 6 hours a week. Fee \$1.00 each term. Deposit \$2.00 each term.

RURAL ARCHITECTURE *

Note: All hours are laboratory or drafting room periods.

Ar 212. **Perspective Drawing.** Study of the representation of buildings and ground by means of mechanical perspective.

Elective; second term; 1 credit; 3 hours a week. Fee \$0.50.

Ar 213. **Dairy Buildings.** Study of dairy barns, silos, etc., by drawing plans.

Elective; third term; 2 credits; 6 hours a week. Fee \$0.50.

Ar 311, 312, 313. **Landscape Drawing.** Study of the presentation of drawings used by landscape architects and gardeners.

Required in Landscape Gardening; junior year; three terms; 3 credits each term; 9 hours a week. Fee \$1.00 each term.

Ar 317, 318, 319. **Horticultural Products Buildings.** Study of evaporators, store houses, and other structures by drawing plans and inspecting buildings.

Required in Horticultural Products; senior year; three terms; 1 credit each term; 3 hours a week. Fee \$0.50.

Ar 320. **Domestic Architecture.** Study of house arrangement (for women students).

Elective; junior year; any term; 2 credits; 6 hours a week. Fee \$0.75. Text: Robinson, Domestic Architecture.

Ar 331, 332, 333. **House Planning.** Study of architecture by working drawings of houses.

Elective; junior year; three terms; 3 credits each term; 9 hours a week. Fee \$1.00 first term; \$0.50 second and third terms. Text: Robinson, Domestic Architecture.

* Except by special arrangement courses in Rural Architecture will not be offered during 1920-21.

BACTERIOLOGY

Bacteriology has become fundamental to such sciences as Agriculture, Pharmacy, and Home Economics and is a necessary part of the training of every man or woman who is seeking a true education. The courses in Bacteriology are adapted to meet both technical and cultural needs of the students. In the sophomore year the work is general and fundamental in nature, and practically the same for all students; but in the later courses it becomes more specialized, following some definite branch of the science. So complex has the study of Bacteriology become that the attempt is no longer made to master the whole field but only one or two of the main branches of the subject, such as Soil Bacteriology, Dairy Bacteriology, Pathogenic Bacteriology, and others.

During the junior and senior years, opportunity for advanced work is given to students who have had proper preliminary training and who show a natural aptitude towards the work. Students in Agriculture may elect Bacteriology as a minor, and receive the necessary fundamental training for positions in Agricultural Bacteriology in colleges, experiment stations, civil service, dairy and food inspection, etc.; while students in the Pharmacy and pre-medical curricula may elect advanced work in Medical Bacteriology, Sanitation, and Public Health work. Graduate students in Dairy Husbandry, Soils, Horticultural Products, Pharmacy, or Home Economics, may elect Bacteriology as a minor with the approval of their major professor and the Professor of Bacteriology.

Proper understanding of Bacteriology necessitates a fair knowledge of General Chemistry, which is therefore made a prerequisite of the courses in Bacteriology. Before a student can progress very far in the work, a knowledge of Qualitative, Organic, and Agricultural Chemistry is necessary, but these subjects will have been taken by students in the degree curricula by the time they are required for their bacteriological work.

Equipment. The department of Bacteriology is located on the fourth floor of Agricultural Hall. The department has well equipped laboratories for resident study and Experiment Station work, with dark room, storeroom, large incubator room for student use, and a departmental library containing the latest authentic texts on bacteriology. The general library has all the available American and foreign bacteriological periodicals of recognized merit. The department is well supplied with the highest grade microscopes, glassware and other equipment for general and advanced work.

COLLEGIATE COURSES

Bac 201. General Bacteriology (Agricultural). A series of lectures, recitations, and laboratory experiments to familiarize students with the fundamental principles of Bacteriology as applied to Agriculture.

Prerequisite: One year of Chemistry. Required in Agriculture; sophomore year; any term; 4 credits; 2 lectures; 3 two-hour laboratory periods. Fee \$4.00. Text: Russell and Hastings, *Agricultural Bacteriology*.

Bac 202. General Bacteriology. A continuation of Bac 201. Lectures and laboratory work devoted to applied Agricultural Bacteriology and a more thorough knowledge of the principles of Bacteriology.

Prerequisite: Bac 201. Elective in Agriculture; sophomore year; second term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$3.00. Text: Marshall, *Microbiology*.

Bac 204. General Bacteriology. A series of lectures, recitations, and laboratory experiments to familiarize students with the fundamental principles of Bacteriology.

Prerequisite: One year of Chemistry. Required in Home Economics (sophomore year) and in Pharmacy (junior year); first or second term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$3.00. Text: Buchanan, *Household Bacteriology*.

Bac 205. Home Economics Bacteriology. A continuation of Bac 204. A course adapted primarily to students of Home Economics. Bacteriology of food preservation, principles of sanitation, bacteriological studies of water, milk, and foods of all kinds; common infectious diseases; disinfection; germicides; and preservatives.

Prerequisite: Bac 204 or 201. Required in Home Economics; sophomore year; second or third term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$3.00. Text: Buchanan, *Household Bacteriology*.

Bac 301, 302, 303. Advanced Bacteriology. Beginning with the first term of the junior year, students in Agriculture and Pharmacy may elect Bacteriology as a minor and continue throughout the rest of their college course.

Prerequisite: Bac 202. Elective; junior year; three terms; 4 credits each term; 3 two-hour laboratory periods; 2 lectures. Fee \$4.00 each term.

Bac 311. Dairy Bacteriology. Application of Bacteriology to dairy practices; physiological activities of bacteria underlying bac-

terial analysis of dairy products; dairy sanitation; bacteriology of diseases of dairy cattle.

Prerequisite: Bac 201. Required in Dairy Husbandry; junior or senior year; first term; 4 credits; 2 lectures; 3 two-hour laboratory periods. Fee \$4.00.

Bac 312. Dairy Bacteriology. A continuation of Bac 311. A more thorough study of specific problems in Dairy Bacteriology and practice in special technique, adapted to particular needs of individual students as far as possible, and planned to train students as bacteriologists for creameries and market milk plants.

Prerequisites: Bac 201, 311. Elective in Agriculture; junior or senior year; second term; 3 credits; 1 lecture; 3 two-hour laboratory periods. Fee \$3.00.

Bac 321. Soil Bacteriology. A study of micro-organisms of the soil and their relation to soil fertility; biochemistry of the decomposition of humus; nitrogen-fixation; ammonification, etc., relation of bacteria to soil fertility and study of the soil as a medium for bacteriological growth.

Prerequisite: Bac 201. Elective in Agriculture; senior year; first term; 4 credits; 2 lectures; 3 two-hour laboratory periods. Fee \$4.00.

Bac 322. Soil Bacteriology. A continuation of Bac 321. A more thorough study in soil of different farm practices. Review of literature on Soil Bacteriology.

Prerequisite: Bac 321. Elective in Agriculture; senior year; second term; 3 credits; 1 lecture; 3 two-hour laboratory periods. Fee \$3.00.

Bac 332. Pharmacy Bacteriology. Continuation of Bac 204. Lectures and laboratory work devoted to principles of Bacteriology and study of Pathogenic Bacteriology.

Prerequisite: Bac 201 or 204. Required in Pharmacy; junior year; second term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$3.00. Text: Hiss and Zinsser, A Text-Book of Bacteriology.

Bac 333. Immunity and Serum Therapy. A study of the theory of immunity and its application to serum therapy; preparation of toxins, antitoxins, vaccines, etc.; study of normal and pathological blood.

Prerequisites: Bac 201, 332. Required in Pharmacy; junior year; third term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$3.00. Text: Hiss and Zinsser, A Text-Book of Bacteriology.

Bac 441. **Zymology and Fermentations.** An elective for students in Horticultural Products. This course is planned to train the student to meet the bacteriological problems in food preservation such as the isolation, identification, and control of micro-organisms causing spoilage of fruits, vegetables, and other foodstuffs; the bacteriology of curing, ripening, and preserving food products.

Prerequisite: Bac 202 or 204. Elective in Agriculture; senior year; second term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$3.00.

Bac 401, 402, 403. **Advanced Bacteriology.** A continuation of Bac 303 comprising further training in the principles and technique of Bacteriology besides directing the study along one of the main lines of Bacteriology.

Prerequisite: Bac 303. Elective; senior year; three terms; 4 credits each term; 3 two-hour laboratory periods; 2 lectures. Fee \$4.00 each term.

Bac 480. **Seminar.** A discussion of the current literature on bacteriological topics.

Elective in Agriculture; senior year; any term; 1 credit; 1 hour.

Bac 691, 692, 693. **Research in Bacteriology.** Work for the master's degree, either as a minor or major in the department, may be selected and continued with the assistance and cooperation of the instructional staff of the department.

Prerequisite: Two years in Bacteriology. Credits and hours to be arranged. Fee \$1.00 a credit.

VOCATIONAL COURSE

Bac 11. **Vocational Dairy Bacteriology.** An elementary study of the bacterial factors in dairy production. Effect of pasteurization, cooling, straining; study of general sanitation, cleanliness of dairy, etc.

Required in Dairy Manufactures Short Course; second term; 1 credit; 1 lecture; 1 two-hour laboratory period. Fee \$1.00.

BOTANY AND PLANT PATHOLOGY

The courses offered in the department aim not only to give the student a knowledge of plants, their external and internal structure, their vital activities, their relations to their environment, and their natural classification; but also to impart such fundamental and practical information in regard to plants as will form a strong foundation for the technical work in Agriculture, Forestry, Pharmacy, and Home Economics.

Exceptional opportunities are afforded students who desire to specialize in Botany and Plant Pathology. Well-equipped laboratories and the unusually favorable location for field study and collecting, offer an attractive inducement for those wishing preparation for teaching Economic Biology or Botany in secondary schools, or Botany and Plant Pathology in colleges and universities. Special attention is given to those who wish to take up investigational work in agricultural experiment stations or in the United States Department of Agriculture under the civil service. Training in Botany and Plant Pathology is a most valuable asset to agricultural extension workers, horticultural inspectors, district agriculturists, seed analysts, and pure-food experts.

Equipment. The department of Botany and Plant Pathology is quartered on the second floor of Agricultural Hall. The three general student laboratories are equipped with compound microscopes for each student and with special artificial illumination for microscopic work. The laboratories for special studies in Plant Pathology, Plant Physiology, and Plant Histology are provided with all the equipment required for ordinary courses and in addition special instruments and technical apparatus are available for advanced work. The herbarium contains several thousand specimens of native and introduced plants including cultivated forms, weeds, poisonous plants, drug plants, and other plants of economic importance. A battery of electrical driers is provided for collected material. Several thousand specimens of fungi, mostly parasitic forms, are comprised in the mycological collection. Physiologic dark rooms, photographic dark rooms, greenhouse space, and culture and sterilizing rooms for work with parasitic organisms are available. The departmental library contains excellent sets of reference works and bulletins, and receives the current issues of practically all of the more important botanical periodicals published in America and foreign countries.

Courses for Students Majoring in Botany and Plant Pathology. Students desiring to pursue special training in Botany and Plant

Pathology are expected to take the usual work required in the freshman and sophomore years of the curricula in Agriculture or Home Economics. In the junior and senior years, besides the courses or options required of all students in these schools, special courses in Botany and Plant Pathology and related subjects are prescribed by the department of Botany and Plant Pathology. Students may obtain information from the head of the department regarding these requirements.

Graduate Courses. Advanced work in various lines of Botany may be taken by graduate students as major or minor subjects and registered for under Bot 691, 692, 693.

Grazing Assistant Positions. Students preparing for grazing assistant positions under the United States Forest Service should take the following courses: Bot 101, 102, 321, 331, 341, 442.

COLLEGIATE COURSES

Bot 101, 102. **General Botany.** A two-term sequence taking up a study of higher plants as living things faced with problems of existence; their fundamental structure; life-histories; physiology; relation to soil, air, moisture, temperature, etc.; extent and constitution of the vegetable kingdom as a whole; forms causing plant diseases or producing decay; main characteristics of the principal families of agricultural plants.

Required in Agriculture; freshman year; first and second terms; 4 credits each term; 1 lecture; 1 recitation; 3 two-hour laboratory periods. Fee \$2.00 each term. Deposit \$1.00 each term. Text: Martin, Botany for Agricultural Students.

Bot 107, 108, 109. **Pharmaceutic Botany.** A three-term sequence preparatory to Pharmacognosy and Materia Medica and concentrated upon the study of various plant tissues, identification of drug plants, study of crude and powdered drugs and their identification.

Required in Pharmacy; freshman year; three terms; 3 credits each term; 1 lecture; 1 recitation; 2 two-hour laboratory periods. Fee \$1.50 each term. Text: Youngken, Pharmaceutical Botany.

Helen M. Gilkey, H. B. McWilliams

Bot 201. **Home Economics Botany.** Structure and life processes of plants with reference to the care of house plants, the kitchen garden, and the home grounds; microscopic plants as causes of plant diseases and of the spoilage of food materials; origin of useful plant products such as foods, drugs, textile fibers, building material, paper, etc.

Required in Home Economics; sophomore year; first or second term; 3 credits; 1 lecture; 1 recitation; 2 two-hour laboratory periods. Fee \$1.50. Text: Ganong, A Text-Book of Botany for Colleges.

Helen M. Gilkey

Bot 311. Principles of Plant Pathology. Causes, symptoms, effects, and means of dissemination of disease in plants; principles of plant disease control; laboratory work with various types of plant diseases and the different groups of plant parasites.

Prerequisites: Bot 101 and 102 or their equivalent. Required in Agriculture (plant group); junior year; second term; 4 credits; 2 recitations; 3 two-hour laboratory periods. Fee \$2.00. Deposit \$1.00. Text: Duggar, Fungous Diseases of Plants. *C. E. Owens*

Bot 321. Plant Physiology. A study of the life processes and vital requirements of the plant as a basis for intelligent agricultural and horticultural practice; physiology of the living plant; response made by the plant to the influences surrounding it; laboratory experiments.

Prerequisites: Bot 101 and 102, or their equivalent, and Qualitative, Quantitative, and Organic Chemistry. Required in Agriculture (plant group); junior year; third term; 4 credits; 1 lecture; 1 recitation; 3 two-hour laboratory periods. Fee \$3.00. Deposit \$2.00. Text: Duggar, Plant Physiology. *W. M. Atwood*

Bot 331. Classification of Economic Plants. A study of the families of higher plants and the identification of weeds, ornamentals, crop plants, etc., as students may elect; field trips for collecting specimens and recording data, and laboratory analysis of material thus collected; practice in drying and mounting plant specimens.

Prerequisite: An elementary course in Botany. Elective; third term; 3 or more credits; 1 recitation; 2 three-hour laboratory periods or field trips. (Additional periods for additional credit.) Fee \$0.50 each credit. Text: Piper and Beattie, Flora of the Northwest Coast.

Helen M. Gilkey

Bot 341. Range and Pasture Botany. A study of the edible, non-edible, and poisonous plants of the range and pasture, their characteristics, life-histories, methods of reproduction, conditions for growth, their distribution and ecological factors affecting them; relation of grazing to the maintenance of ranges and pastures; methods of preventing stock poisoning or of eradicating poisonous plants. Of interest to students in Animal Husbandry and Dairy Production, and to forest rangers.

Prerequisites: Bot 101 and 102, or equivalent. Elective; second term; 2 credits; 1 recitation; 1 two-hour laboratory period. Fee \$1.00. Text: Piper and Beattie, *Flora of the Northwest Coast*.

W. E. Lawrence

Bot 411. **Fruit Diseases.** Causes, symptoms, progress, and control of the important fungus, bacterial, and physiological diseases of orchard trees and small fruits, with emphasis on those of importance in the Pacific Northwest. Studies in the laboratory are supplemented by field excursions.

Prerequisite: Bot 311. Required in Pomology; senior year; third term; 3 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$1.50. Deposit \$0.50. Text: Hesler and Whetzel, *Manual of Fruit Diseases*.

C. E. Owens

Bot 412. **Diseases of Field Crops and Vegetables.** Similar to Bot 411, but dealing with diseases of field crops and truck and garden vegetables.

Prerequisite: Bot 311. Required in Plant Pathology; senior year; first term; 3 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$1.50. Deposit \$0.50.

C. E. Owens

Bot 413. **Forest Pathology.** The parasitic and saprophytic fungi which attack forest trees and destroy structural timber; their effects upon the wood; preventive measures.

Prerequisites: Bot 101 and 102, or their equivalent. Elective; junior or senior year; first term; 2 credits; 1 recitation; 1 two-hour laboratory period. Fee \$1.00.

C. E. Owens

Bot 414. **Mycology.** A study of the different groups of fungi with special attention to parasitic forms, dealing with structure, life-history, and classification. An advanced course.

Prerequisites: Bot 101 and 102, or their equivalent. Elective; senior year; second term; 4 credits; 2 recitations; 3 two-hour laboratory periods. Fee \$2.00. Text: Harshberger, *Mycology*.

H. P. Barss

Bot 415. **Plant Pathological Technique.** A training course in the technical methods employed in plant pathological investigations; isolation, cultivation, and inoculation of parasitic organisms; record keeping; care of collections; photographic methods, etc. For advanced students.

Prerequisite: Bot 311. Elective; senior year; third term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$2.50. Deposit \$2.00. Text: Harshberger, *Mycology*.

H. P. Barss

Bot 421. Advanced Plant Physiology. Special studies of plant physiological problems of present-day interest and importance; extensive reading and class reports on selected topics.

Prerequisite: Bot 321. Elective for advanced students; second term; 3 credits. (Additional credit may be taken by arranging with instructor.) Schedule and fees depending on nature of problems undertaken.

W. M. Atwood

Bot 441. Comparative Morphology and Evolution of Plants. An advanced course aiming to show the tendencies and causes which impel or control evolution within the plant kingdom and designed to broaden the student's knowledge of the different groups of plants by comparison of the organic structure, life-histories, cytological development, and reproductive processes of representative forms. Basic to work in Genetics, Plant Breeding, and advanced biologic study.

Prerequisites: Bot 101 and 102 or their equivalent. Elective for advanced students; first term; 4 credits; 1 lecture; 1 recitation; 3 two-hour laboratory periods. Fee \$2.00. Text: Coulter et al., A Text-Book of Botany, Vol. I, Part 1. Coulter, Evolution of Sex in Plants.

W. E. Lawrence

Bot 442. Economic Plant Ecology. A study of the effects on living plants of external influences such as climate, soil, physiography, etc., under natural condition or under conditions modified by agriculture; native vegetation as an indicator of agricultural possibilities. Of special value to students of Agriculture, Forestry, Grazing, Agricultural Economics, Irrigation and Drainage, Plant Introduction, Geology, and Botany, and any expecting to enter state or Federal field service.

Prerequisites: Bot 101 and 102 or their equivalent. Elective; third term; 3 credits; 1 lecture; 1 recitation; 1 three-hour laboratory period. Fee \$1.50.

W. E. Lawrence

Bot 443. Plant Histology. An advanced course dealing with the structure, inclusions, activities, and methods of division of the plant cell; development, structure, and relation to function of various types of plant tissues; training in the technique of making temporary and permanent microscopic mounts, including sectioning, staining, etc.

Prerequisites: Bot 101 and 102 or their equivalent. Elective; first term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$3.00. Deposit \$2.00. Text: Stevens, Plant Anatomy.

C. E. Owens

Bot 444. **Advanced Study and Thesis.** For students specializing in Botany and Plant Pathology. Investigation of special problems or advanced studies not included in regular courses.

Elective; junior or senior year; any term; credit, hours of work, etc., to be arranged with major professor.

Bot 471. **The Teaching of Botany.** For prospective teachers of natural science in secondary schools. Deals with point of view, methods, materials, texts, and equipment in teaching Botany, and adaptation of the work to the interests, needs, and possibilities of the community. (Coordinated with ZP 472 and Ent 473 which follow.)

Prerequisite: An elementary course in Botany. Elective; first term; 3 credits; 1 lecture; 1 recitation; 2 two-hour laboratory periods or field trips. Fee \$1.50. Deposit \$1.00. *C. E. Owens*

Bot 481, 482, 483. **Seminar.** The seminar is attended and contributed to by advanced students and instructional staff in the department of Botany and Plant Pathology and consists of reports on advanced botanical studies, extracts of articles along botanical lines appearing in scientific journals and other publications. Students are required to prepare and present papers on assigned topics.

Required in Botany; senior year; three terms; 1 credit each term; 1 hour a week.

Bot 691, 692, 693. **Graduate Study and Thesis.** Graduate students may register under these numbers for special studies and investigations of graduate grade in any line of work included within the scope of the department of Botany and Plant Pathology. Thesis work for the master's degree is taken up under these numbers.

Elective for graduate students; any term; credits, hours, prerequisites, etc., are arranged by the instructor in charge of the major line of work pursued, subject to the approval of the head of the department.

VOCATIONAL COURSE

Bot 11. **Plant Disease Control.** A practical course. Elementary study of the structure and life activities of plants and the effects of diseases. How to recognize and how to prevent or eradicate the most common and destructive diseases of field crops, fruits, and vegetables.

Required in Vocational Curriculum in Agriculture; first term; 3 credits; 1 lecture; 1 recitation; 2 two-hour laboratory periods. Fee \$1.00. *C. E. Owens*

CHEMISTRY

The foundation courses in General Chemistry consist in familiarizing the student with the more important underlying principles of the science and the fundamentals of laboratory technique. These principles are devolved and illustrated largely through a study of the descriptive chemistry of the non-metallic and metallic elements, including appropriate means for identifying each.

The courses in Analytical Chemistry consist of (a) Qualitative Analysis, by means of which the student is enabled to classify, separate, and identify the components of mixtures and constituents of compounds; (b) Quantitative Analysis, in which he determines the actual quantity of those components and constituents which he has previously learned to separate and identify.

A study of the principles of Organic Chemistry and their applications in the laboratory follows the above courses.

Having completed the above, the student is now fairly well prepared to begin specialization in the field of chemistry. The following lines of specialization are suggested:

(1) Agricultural Chemistry. Study and analysis of soils, feeds, fertilizers, dairy and horticultural products; animal nutrition and general experiment station work.

(2) Inorganic Chemistry and Analysis. Study and analysis of minerals, ores, alloys, and the products of metallurgical and other inorganic chemical industries, including advanced inorganic chemistry and a study of the rarer elements and their technical application.

(3) Pharmaceutical and Physiological Chemistry. Study of the chemical processes more intimately associated with foods, drugs, pharmaceutical products, and the products of the human economy, including comprehensive analytical methods, and advanced organic synthesis.

(4) Chemical Engineering. Preparation for the field of industrial chemical technology.

Equipment. The department of Chemistry occupies nearly the whole of Science Hall, excepting the fourth floor which is occupied at present by the School of Pharmacy, and four rooms used by the Experiment Station department of Agricultural Chemistry.

The first floor contains the main general laboratory, the stock room and the organic laboratory. The general laboratory, designed for practical work in modern chemistry, is well lighted and commodious, with accommodations for eighty students at one time. The general laboratory and the organic laboratory are both contiguous to the stock-room. The organic laboratory accommodates ninety-six

students daily. These laboratories are equipped with the necessary apparatus. The laboratory used for Quantitative Analysis is on the second floor. The equipment of this laboratory is adequate to give training in the quantitative methods of chemistry and in most of the analytical work required in the laboratories of modern commercial establishments. The School of Agriculture demands in its students skill in analytical methods, and classes giving this training fill the main quantitative laboratory during the greater part of the day.

COLLEGIATE COURSES

Ch 101. General Chemistry. Fundamental principles and their application; the non-metallic elements and their compounds; laboratory work in identification of anions. A two-week introductory course in elementary physical concepts precedes the regular work.

Required in Agriculture, Home Economics, and Engineering; freshman year; first term; 3 credits; 1 lecture; 1 recitation; 2 two-hour laboratory periods. Fee \$4.50. Deposit \$2.00.

Ch 102. General Chemistry. Continuation of Ch 101. Metallic elements and their compounds; introductory study of chemical equilibrium; theory of solution; law of mass-action and the periodic law. The laboratory work completes anion classification and identification, and includes study of the reactions of the cations and their identification.

Prerequisite: Ch 101 or equivalent. Required in Agriculture, Home Economics, and Engineering; freshman year; second term; 3 credits; 1 lecture; 1 recitation; 2 two-hour laboratory periods. Fee \$4.50. Deposit \$2.00.

Note: Students who have had one year of Chemistry in a standard high school may be permitted to take an examination for credit in Ch 101 and 102 provided their high-school credits in Chemistry are not used as entrance units. This examination will be held one week after the opening of the first term. Laboratory note-books must be presented.

Ch 103. General Chemistry. Continuation of Ch 102. Metallic elements and their compounds; elementary study of the principles of qualitative analysis; further extension and application of the principles of chemical equilibrium; the law of mass-action; theory of solution; the periodic law; laboratory work in elementary qualitative analysis and, in addition, a few typical exercises in gravimetric and volumetric analysis, including acidimetry and alkalimetry.

Prerequisite: Ch 102 or equivalent. Required in Agriculture, Home Economics, and Engineering; freshman year; third term; 3

credits; 1 lecture; 1 recitation; 2 two-hour laboratory periods. Fee \$4.50. Deposit \$2.00.

Ch 104. **General Chemistry.** Fundamental principles and their application; the non-metallic elements and their compounds; the atomic theory; valence; oxidation and reduction reactions studied from the standpoint of the electron theory; introductory study of chemical equilibrium; laboratory work in quantitative applications of the more important chemical principles, and the reactions and means of identification of the common anions.

Prerequisite: High-school Chemistry and Physics. Required in Chemical Engineering, Mining Engineering, and Pharmacy; freshman year; first term; 5 credits; 1 lecture; 2 recitations; 3 three-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 105. **General Chemistry.** Continuation of Ch 104. Metallic elements and their compounds; extension of the fundamental principles of the preceding course; chemical equilibrium and the law of mass-action considered quantitatively; solubility products; the periodic law; laboratory work in systematic classification and identification of the common ions, together with numerous quantitative exercises illustrative of the more important chemical principles.

Prerequisite: Ch 104 or equivalent. Required in Chemical Engineering, Mining Engineering, and Pharmacy; freshman year; second term; 5 credits; 1 lecture; 2 recitations; 3 three-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 106. **General Chemistry.** Continuation of Ch 105. Metallic elements and their compounds from the standpoint of qualitative analysis; i. e., the classification, separation, and identification of cations. Further development of the principles of the preceding courses; introductory study of complex ions; thermochemistry, electrochemistry, colloid chemistry, and the phase rule.

Prerequisite: Ch 105. Required in Chemical Engineering, Mining Engineering, and Pharmacy; freshman year; third term; 2 credits; 2 recitations.

Ch 111, 112, 113. **Household Chemistry.** A modified course in general chemistry for those students in Home Economics who do not intend to take the full number of courses in Chemistry required in the degree curriculum. Application of the principles of general chemistry with respect to fuels and air, water, cleansing and bleaching agents; qualitative study of proteins, fats, carbohydrates, leavening agents, food adulterants, and textile fibers. Ch 111 and 113 not accepted as prerequisites to Ch 102 and 221 respectively.

Elective in Home Economics; freshman year; three terms; 3 credits each term; 2 recitations; 2 two-hour laboratory periods. Fee \$4.50 each term. Deposit \$2.00 each term.

Ch 131. Qualitative Analysis. A laboratory course to accompany Ch 106; cannot be taken separately. The classification, separation, identification of the common ions and cations; dissolving and analysis of solid substances, including salts, alloys, etc.

Prerequisite: Ch 105 or equivalent; must be accompanied by Ch 106. Required in Chemical Engineering, Mining Engineering, and Pharmacy; freshman year; third term; 3 credits; 3 three-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 221. Organic Chemistry. Study of occurrence, methods of preparation, characteristic reactions, and properties of the more common organic compounds; the paraffins, alcohols, aldehydes, ketones, ethers, fatty acids, esters, benzene, phenols, aniline and a few dyes.

Prerequisite: Ch 103. Required in Home Economics; sophomore year; first term; 5 credits; 2 lectures; 2 recitations; 3 two-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 222. Chemistry of Foods and Digestion. Nature of the carbohydrates, proteins, fats in common food stuffs; qualitative tests for the same; chemical changes foods undergo in the process of digestion and metabolism.

Prerequisite: Ch 221 or 226. Required in Home Economics; sophomore year; second* or third term; 5 credits; 2 lectures; 2 recitations; 3 two-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 224. Organic Chemistry. A course similar to Ch 221, but dealing also with the carbohydrates, proteins, and other compounds of carbon which are of special importance along agricultural and biochemical lines.

Prerequisites: Ch 103, 247. Required in Agriculture; sophomore year; second term; 5 credits; 2 lectures; 2 recitations; 2 three-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 226, 227. Organic Chemistry. A two-term sequence in the chemistry of the carbon compounds; the aliphatics, aromatics, and derivatives, including methods of separation, preparation, identification, properties, and characteristic reactions.

Prerequisites: Ch 106. Required in Pharmacy (sophomore year) and in Chemical Engineering (junior year); first and second terms; 5 credits each term; 2 lectures; 2 recitations; 2 three-hour laboratory periods. Fee \$7.50 each term.

Ch 231. Qualitative Analysis. Advanced course. Review of theory and practice of analytical operations; separation and identification of the components of such substances as ores, minerals,

*Students taking Ch 222 in the second term take Ph 200 in the third.

rocks, slags, mattes, alloys, and metallurgical by-products. Some work is given in the identification of the less common metals, and qualitative tests are made with boiler scale and cement.

Prerequisites: Ch 106 and 131, or equivalent. Required in Mines; sophomore year; first term; 3 credits; 1 lecture or recitation; 2 three-hour laboratory periods. Fee \$4.50. Deposit \$2.00.

Ch 233. **Qualitative Analysis.** Advanced Course. Review of the theory and practice of analytical operations and the application of the principles of the preceding courses in General Chemistry and Qualitative Analysis. The separation and identification of the less common elements such as selenium, tellurium, vanadium, and tungsten. Some practice is given in "dry analysis" so as to enable the student to grasp these methods of attack in complete analysis.

Prerequisites: Ch 106 and 131, or equivalent. Elective; sophomore year; first term; 5 credits; 1 lecture; 2 recitations; 3 three-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 234. **Qualitative Analysis.** A complete course in Qualitative Chemistry including the less common elements and the "rare earths." The lecture and recitation work includes the descriptive chemistry of the rarer elements and their analytical reactions. In the laboratory the student is expected to analyze materials of such nature as to develop his originality and ingenuity to a relatively high degree.

Prerequisite: Ch 231 or 233 or equivalent. Elective in Mining and Chemical Engineering; junior year; first or second term; 5 credits; 2 lectures; 4 three-hour laboratory periods. Fee \$10.00. Deposit \$3.00.

Ch 241. **Quantitative Analysis.** Elementary gravimetric and volumetric analysis as far as through oxidation and reduction.

Required in Mining Engineering; sophomore year; second term; 3 credits; 1 lecture and 1 recitation; 6 hours laboratory work. Fee \$4.50. Deposit \$2.00.

Ch 242. **Quantitative Analysis.** Continuation of Ch 241. Gravimetric and volumetric analysis of limestone, iron, lead, zinc, arsenic, and antimony ores, and various products from the copper refineries.

Required in Mines; sophomore year; third term; 3 credits; 1 lecture; 1 recitation; 6 hours laboratory work. Fee \$4.50. Deposit \$2.00.

Ch 244. **Quantitative Analysis.** Elementary quantitative analysis.

Required in Pharmacy and Chemical Engineering; sophomore year; second or third term; 5 credits; 1 lecture; 1 recitation; 12 hours laboratory work. Fee \$7.50. Deposit \$2.00.

Ch 245. Quantitative Analysis. Continuation of Ch 244. Analysis of steels, brasses, and metallurgical and industrial products.

Required in Chemical Engineering; 1 recitation; 12 hours laboratory work. Fee \$7.50. Deposit \$2.00.

Ch 247. Quantitative Analysis. For Agricultural students. Exercises in gravimetric and volumetric analysis of various materials related to agricultural pursuits, with a view of teaching skill in the manipulation of instruments of precision, especially in the use of the analytical balance; stoichiometrical problems.

Prerequisite: Ch 103. Required in Agriculture; sophomore year; first term; 5 credits; 1 lecture; 2 recitations; 3 three-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 251. Agricultural Chemistry. The lectures lay the foundation for the correlation of plant chemistry, soil chemistry, and fertilizer chemistry, and emphasize the economic importance of certain groups of compounds—as the carbohydrates, fats, and proteins—which characterize our commonly-grown farm crops. The laboratory work supplements the lecture work.

Prerequisites: Ch 247, 225. Required in Agriculture; sophomore year; third term; 5 credits; 3 lectures; 3 three-hour laboratory periods (one devoted to supervised study and recitation). Fee \$7.50. Deposit \$2.00.

Ch 321. Textile Identification. Identification of the different materials used in the textile industries.

Prerequisites: Ch 103, 221. Elective; junior year; third term; 2 credits; 1 lecture; 2 two-hour laboratory periods. Fee \$2.00. Deposit \$2.00.

Ch 328. Organic Analysis. Qualitative tests and analysis of some organic compounds and mixtures; quantitative determination of carbon, hydrogen, nitrogen, and sulfur in organic compounds.

Prerequisites: Ch 227, 244. Required in Chemical Engineering; junior year; third term; 5 credits; 1 recitation; 4 three-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 351. Dairy Chemistry. Chemistry of milk, butter, oleomargarine, cheese, and other dairy products.

Prerequisite: Ch 247 or equivalent. Elective; junior year; first term; 3 credits; 3 three-hour laboratory periods; recitations at discretion of instructor during laboratory periods. Fee \$4.00. Deposit \$2.00.

Ch 352. Chemistry of Spraying Materials. Chemistry of the various insecticides and fungicides and inspection of a number of the commercial spraying materials.

Prerequisite: Ch 247 or equivalent. Elective; junior year; second term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$2.00.

Ch 353. **Chemistry of Horticultural Products.** Chemistry of fruits and fruit products, vegetable and vegetable products, as related to industrial processes.

Prerequisite: Ch 244 or equivalent. Elective; junior year; third term; 3 credits; 3 three-hour laboratory periods.

Ch 355. **Chemistry of Soil Fertility.** This course is concerned primarily with methods and principles involved in the chemical work required in soil fertility investigations. Acidity, alkalinity, carbonates, ammonia, nitrates, organic matter, and humus determinations are most prominent. Especially for juniors in Soils.

Prerequisites: Ch 224, 247. Elective; junior year; second term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$2.00.

Ch 361. **Physiological Chemistry of Nutrition.** Qualitative tests and quantitative analysis of the end products of metabolism. Effects of changes in diet on the composition of the blood and urine.

Prerequisites: Ch 221 and 222. Elective in Home Economics; junior year; 5 credits; 1 lecture; 1 recitation; 3 four-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 371. **Alkaloidal Testing.** Study of the properties of the common alkaloidal drugs; testing for detecting and methods for isolating the common poisons from plants and animal tissues.

Prerequisites: Ch 227, 224. Required in Pharmacy; junior year; first term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$2.00.

Ch 374. **Drug Assaying.** Quantitative estimation of the active principles of crude drugs and their preparations, such as solid and fluid extracts, tinctures, pills, etc.

Prerequisite: Ch 371. Required in Pharmacy; junior year; second term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$2.00.

Ch 375. **Advanced Drug Assaying.** An advanced course for students in Pharmacy who intend to enter manufacturing pharmaceutical laboratories.

Prerequisite: Ch 374. Elective; senior year; first term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$2.00.

Ch 377. **Food and Drug Analysis.** Designed to fit students for positions in food and drug laboratories. Qualitative and quantitative analysis of food and drug products commonly subject to adulteration.

Prerequisites: Ch 227, 224; Bot 109. Required in Pharmacy; senior year; third term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$2.00.

Ch 378. **Advanced Food and Drug Analysis.** Continuation of Ch 377.

Prerequisite: Ch 377. Elective in Pharmacy; senior year; second term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$2.00.

Ch 411. **Elementary Glass Blowing and Repairing.** Elements of the art of welding, cutting, and grinding glass. Each student must procure his own glass and files. Especially for those who expect to become instructors in high schools.

Elective; junior or senior year; 1 credit; 1 three-hour laboratory period. Fee \$2.00. Text: Woollatt, Laboratory Arts. Frary, Glass Blowing.

Ch 429. **Organic Synthesis.** The methods of synthesis for the more complex organic compounds; acetoacetic ester, malonic ester; Grignard's reagents; the zinc alkyls; diazonium compounds and their use in synthetic chemistry.

Prerequisites: Ch 227, 244. Elective; senior year; first term; 5 credits; 2 recitations; 3 three-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 461. **Physiological Chemistry.** Properties, chemical nature, and reactions of the important body tissues, enzyme action, digestion, metabolism; blood tests and urine analysis.

Prerequisites: Ch 227, 224, 222. Required in Pharmacy; senior year; third term; 5 credits; 2 recitations; 3 three-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 481, 482, 483. **Physical Chemistry.** Molecular weight determinations; properties of liquids; dilute solutions; solubilities; conducting of solutions; chemical equilibrium; velocity of reactions; thermochemical measurements.

Prerequisites: Ch 106, 233, 245; Mth 131. Required in Chemical Engineering; senior year; three terms; 3 credits each term; 3 three-hour laboratory periods. Fee \$4.50 each term. Deposit \$2.00 each term.

Ch 490. **Minor Seminar in Chemistry.** Required of student assistants in Chemistry; open also to students who intend to teach elementary Chemistry in high schools. Topics covered: the fundamental principles of Chemistry and methods of presentation to classes; discussion of note-books and examination papers; methods of grading; classroom and laboratory administration; assembling apparatus; laboratory furnishings; repairs.

Prerequisites: Ch 106, 244, 231, 481. Elective; graduate year; 3 lectures or laboratory periods. Fees and deposits to be arranged.

Ch 491, 492, 493. **Advanced Inorganic Chemistry.** A graduate course intended to classify and correlate the student's knowledge of the field of chemistry as viewed from the several standpoints of the various courses he has pursued. Lectures, collateral readings, and discussions on the periodic system from the point of view of Mendelejeff, Lothar Meyer, Harkins, and Werner; valency; X-ray and crystal structure; molecular symmetry as exemplified in crystal form; chemistry of the rarer elements; higher order compounds; complex inorganic acids; inorganic stereochemistry and isomerism; electron theory and electromerism; correlation of inorganic and organic Chemistry based on the electron theory; the later ideas of valency; cooling curves and thermal analysis; colloids; and similar topics.

Elective; any term; 2 meetings each week.

Ch 494. **History of Chemistry.** Rise and development of chemical theories and laws.

Prerequisite: Ch 106 or equivalent. Elective; second term; 2 credits; 2 lectures or recitations.

VOCATIONAL COURSE

Ch 51. **Dairy Chemistry.** A very elementary course of laboratory exercises designed to acquaint creamery operators with the principles and technique involved in such laboratory work as the testing of milk and cream for acidity, total solids, ash, etc.

Required in Dairy Manufactures Short Course; second term; 1 credit; 1 three-hour laboratory period. Fee \$1.50. Deposit \$0.50.

ENGLISH LANGUAGE AND LITERATURE

It is the aim of this department to teach the student that the essential part of any effective composition, whether oral or written, is thought well organized and well expressed; that to comprehend clearly and to feel strongly what he has to say, are the indispensable conditions of making others comprehend and feel. Thought so organized and expressed is found in good literature; this he is taught to appreciate. In all the collegiate courses in English the work is correlated with that offered in the other departments, to bring it into harmony with the spirit of the institution.

The Oregon Agricultural College participates in a number of inter-collegiate debates and oratorical contests; and the department offers elective courses in expression and public speaking, designed to give preparation for this work.

Equipment. The College Library, with its excellent resources in general and technical literature, including all the leading periodicals, affords abundant opportunity for the student in English to carry on his studies with profit and satisfaction. In addition, the opportunities for expression and appreciation afforded by the student activities and organizations—forensic, dramatic, literary, and journalistic—are exceptionally attractive.

COLLEGIATE COURSES

Eng 101. English Composition. Review of principles of rhetoric; critical studies of examples of English prose; practice in written and oral composition; frequent conferences between instructor and student as aids in meeting individual needs.

Prerequisites: Three units of English earned in standard high schools. Required in all schools; freshman year (in Engineering, sophomore or junior year); first term; 3 credits; 3 recitations. Fee \$0.25. Texts: Foerster and Steadman, Jr., Sentences and Thinking. Scott and Denney, Paragraph Writing. MacCracken and Sandison, Manual of Good English.

Eng 102. English Composition. Continuation of Eng 101. Reading, practice writing, and discussion to cultivate clearness of thought and accuracy of expression. The work is modified and adapted to meet the requirements of the students in the several schools. Standard periodicals form the basis of a part of the work.

Prerequisite: Eng 101. Required in all schools except Commerce (freshman year) and in Engineering (sophomore or junior year); second term; 3 credits; 3 recitations. Texts: Jelliffe, Handbook of Exposition. Nutter, Hersey, and Greenough, Specimens of Prose Composition.

Eng 103. **Technical Composition.** Classes organized according to schools or curricula. Material for practice writing is worked out in active cooperation with instructors in technical courses. Literature of contemporary interest is used as a basis for discussion and writing.

Prerequisite: Eng 102. Required in all schools except in Commerce, Forestry, and Electrical Engineering (freshman year) and in Engineering (sophomore or junior year); third term; 3 credits; 3 recitations. Texts: Bowman, Essays for College English. Moore, English Composition for College Women.

Eng 105. **Business Correspondence.** The business letter in detail, special attention being given to letters of application, letters of inquiry and information, circular letters, letters of complaint, sales letters, follow-up letters, and collection letters.

Required in Commerce; freshman year; second term; 3 credits; 3 recitations. Text: Gardner, Effective Business Letters.

S. H. Peterson, H. W. Shoenberger, M. Helm

Eng 106. **Advanced Business English.** The preparation of manuscript and copy for the printer; study of the advertising circular, students being required to plan and complete circulars for various advertising purposes; practice in writing informal trade agreements, specifications, and other business forms; study of postal regulations.

Prerequisite: Eng 105 or equivalent. Required in Commerce; freshman year; third term; 3 credits; 3 recitations. Text: Gardner, Effective Business Letters.

S. H. Peterson, H. W. Shoenberger, M. Helm

Eng 201. **Advanced English Composition.** The object of this course is to develop facility and clarity of expression. Intensive study of the popular essay, the biography, and the criticism, as special forms of exposition; exercises in analysis and in the application of the mechanics of expository outlines; long and short themes.

Prerequisites: Eng 101, 102, 103. Elective; sophomore or junior year; any term; 3 credits; 3 recitations. Text: Gardner, The Forms of Prose Literature.

Eng 211. **The English Essay.** Study of structure of the essay; the essay as expression of national life and thought; the growth of the economic, critical, historical, and personal essay. Class and individual assignments from Macauley, Arnold, Pater, Stevenson, and others; lectures and reports.

Prerequisites: Eng 101, 102, 103, or equivalent. Elective; sophomore or junior year; first term; 3 credits; 3 recitations. Texts: Canby, Facts, Thought, and Imagination. Howe, Selections from Hazlitt. Hufford, Essays of Ruskin.

F. Berchtold

Eng 212. **The English Drama.** Study of the structure and technique of the drama considered as a distinct literary type; differentiation of tragedy, comedy, melodrama, and farce; study of plot, character, and setting, with reading and analysis of plays for verification of principles derived. Reports, oral and written, on plays and topics assigned for collateral reading.

Prerequisite: Eng 101, 102, 103, or equivalent. Elective; sophomore year; second term; 3 recitations; 3 credits. Text: Woodbridge, *The Drama: Its Laws and Its Technique*. *L. B. Baldwin*

Eng 213. **The Short-Story.** Reading, study, and composition of the short-story as a distinct literary type; analysis of three prescribed stories emphasizing respectively plot, character, and setting. Lectures, recitations, tests.

Prerequisites: Eng 101, 102, 103, or equivalent. Elective; sophomore or junior year; third term; 3 credits; 4 recitations. Text: Ashmun, *Modern Short-Stories*. *L. B. Baldwin*

Eng 214. **The Novel.** Study of the structure and content of the realistic as well as the romantic novel; growth of the novel of manners, of character, of the problem novel; study of the modification, variation and persistence of the larger categories of fiction. Class and individual assignments, lectures, and reports.

Prerequisites: Eng 101, 102, 103. Elective; sophomore or junior year; second term; 3 credits; 3 recitations. Texts: Cross, *Development of the English Novel*. Burton, *Masters of the English Novel*.

Eng 251. **Practical Public Speaking.** Practice in presentation of the various forms of public addresses; voice training; study of gesture, bearing, and the elements of ease and force in presentation; practice in rapid preparation and impromptu delivery of speeches on topics of current interest; drill in parliamentary procedure.

Required in Forestry (third term); elective to others (first term); sophomore year; 3 credits; 3 recitations. Text: Robinson, *Effective Public Speaking*. *G. R. Varney*

Eng 252. **Extempore Speaking.** Practice in the presentation of the various forms of addresses; speeches on topics of special interest to the students; criticism as to method of selection, organization, and presentation.

Elective; junior year; second term; 3 credits; 3 recitations. Text: Shurter, *Extempore Speaking*. *G. R. Varney*

Eng 253. **Argumentation.** Practical work in brief-drawing, collection and handling of evidence, and debating. Each student prepares several debates, constructs briefs, and participates in classroom debates.

Elective; third term; 2 credits; 2 recitations. Text: Foster, *Argumentation and Debate*. *G. R. Varney*

Eng 264. **Expression.** Literary interpretation, including analysis, memorizing, and rendering of selected masterpieces of prose and poetry; correction of erroneous habits of speech, of artificiality, affectation, and self-consciousness.

Elective; first term; 2 credits; 2 recitations. *Norma Olson*

Eng 265. **Expression.** Continuation of Eng 264.

Elective in Home Economics; second term; 2 credits; 2 recitations.

Eng 321. **History of English Literature.** A general outline course in the history of English literature. The aim is to cultivate an appreciation of what is excellent in quality and form. Masterpieces representing the best thought and form are studied in class or assigned to students for careful reading and reports. Field of study: English literature from its beginning to the end of the eighteenth century.

Elective; junior year; first term; 3 credits; 3 recitations. Text: Moody and Lovett, *History of English Literature*. *F. Berchtold*

Eng 322. **History of English Literature.** A continuation of Eng 321. Study of the master minds of the nineteenth century. Lectures, readings and discussions; critical reports on assigned topics required from all the students.

Elective; junior year; second term; 3 credits; 3 recitations. Text: Moody and Lovett, *History of English Literature*.

F. Berchtold

Eng 323. **Contemporary English Literature.** English literature of the late nineteenth and twentieth centuries.

Elective; junior year; third term; 3 credits; 3 recitations. Text: Cunliffe, *Century Readings in English Literature*. *F. Berchtold*

Eng 351. **Oratory.** This course is intended as special preparation for those who wish to enter oratorical work. Lectures on the theory of oratory; preparation of original orations; class-room exercises; personal conferences and criticism.

Elective; first term; 1 credit; 1 recitation. Text: Shurter, *The Rhetoric of Oratory*. *G. R. Varney*

Eng 431. **American Literature.** Study of the growth and development of literature in our country. Emphasis placed on the study of writers of the nineteenth century, including Irving, Cooper, Bryant, Poe, Hawthorne, Longfellow, Holmes, and Lowell, and others. Lectures; class study; class reading; reports on assigned topics; essays.

Elective; junior or senior year; first term; 3 credits; 3 recitations. Text: Wendell and Greenough, *History of Literature in America*. *F. Berchtold*

Eng 432. **American Literature.** A continuation of Eng 431. The metropolitan writers; literature in the South; literature in the West; present schools and tendencies. Lectures; classroom work; reports; essays.

Elective; junior or senior year; second term; 3 credits; 3 recitations. Text: Wendell and Greenough, *History of Literature in America*.
F. Berchtold

Eng 433. **American Literature.** A continuation of Eng 432. Study of American writers of the twentieth century, including the more important literature of the Great War. Contemporary American periodical literature. Lectures; assigned readings; reports; essays.

Elective; junior or senior year; second term; 3 credits; 3 recitations. Text: Pattee, *American Literature Since 1870*.

F. Berchtold

Eng 441. **Tennyson.** A study of the man as representative poet of the nineteenth century and of his outlook upon life, together with an introduction to the study of poetry through a careful reading of his more significant poems.

Prerequisites: Eng 101, 102, 103, or equivalent. Elective; junior or senior year; first term; 3 credits; 2 lectures; 1 recitation.

Eng 442. **Browning.** The most noteworthy of the shorter poems are read and carefully studied. The purpose of the course is to remove difficulties and to bring the student into touch with the robust, optimistic personality of the poet.

Prerequisites: Eng 101, 102, 103, or equivalent. Elective; junior or senior year; third term; 3 credits; 2 lectures; 1 recitation.

Eng 443. **Shakespeare.** A careful reading of plays of various types with a view to the forming of some estimate of the poet's genius and outlook. Attention will be paid to the relation between the Elizabethan Drama and the modern play.

Prerequisites: Eng 101, 102, 103, or equivalent. Elective; junior or senior year; second term; 3 credits; 2 lectures; 1 recitation.

Eng 464, 465. **Dramatic Interpretation.** Advanced literary interpretation; training in delivery of masterpieces of prose and poetry; interpretative study of Shakespeare and modern drama; presentation of scenes from plays; bodily expression; impersonation.

Prerequisites: Eng 264, 265. Elective; first and second terms; 2 credits each term; 2 recitations.
Norma Olson

Eng 467, 468. **Story Telling.** Study of children's literature; analysis and reproduction of short stories suitable for the nursery, the kindergarten, and the primary grades.

Elective in Home Economics; second and third terms; 1 credit each term; 1 recitation.
Norma Olson

Eng 481, 482, 483. **Seminar.** Reading and analysis of the recognized masterpieces of continental European literature in approved translations. French, Italian, Spanish—Scandinavian, Teutonic—Russian, Polish.

Elective; three terms; 2 credits each term; 2 recitations.

F. Berchtold

VOCATIONAL COURSES

Eng 10. **Special Composition.** If a student, in his work in any department, submits papers notably deficient in English, either his dean or his major professor will require him to take Eng 10. It consists wholly of theme work and consultations, and is continued in each case as long as the needs of the student require. This course carries no credits.

Any term; 2 recitations.

Eng 11. **Vocational English.** Review of English grammar; identification and analysis of sentences; punctuation; written and oral exercises in spelling; development of the sentence sense, the avoidance of the common grammatical errors in expression, and the production of legible manuscript. Collateral reading: Fowler, *Starting in Life*. Choosing a Career. Richardson, *The Girl Who Earns Her Own Living*.

Vocational curricula; first year; first term; 3 credits; 3 recitations. Text: Baskerville and Sewell, *English Grammar*.

Eng 12. **Vocational English.** Composition writing; the letter as a medium in business problems; oral and written reproduction of short articles; narrative themes; explanation of processes and mechanisms. Books assigned for reading: Rollins, *What Can a Young Man Do?* Alden, *Women's Ways of Earning Money*.

Vocational curricula; first year; second term; 3 credits; 3 recitations. Text: Baskerville and Sewell, *English Grammar*.

Eng 13. **Vocational English.** Composition writing continued; identification of the parts of speech; classification and use of clauses; drill in punctuation; construction of outlines; discussion of current events. Collateral reading: Hale, *What Career?*

Vocational curricula; first year; third term; 3 credits; 3 recitations. Text: Huntington, *Elements of English Composition*. Daly, *Advanced Rational Speller*.

Eng 21. **Advanced Vocational English.** Study of the structure and function of phrases; syntax; punctuation; reports on newspaper and magazine articles; drafting of simple specifications; composition, oral and written. Collateral reading: Shaw, *The Outlook for the Average Man*. Abbott, *Women and Industry*.

Vocational curricula; second year; first term; 3 credits; 3 recitations. Text: Webster, English for Secondary Schools.

Eng 22. **Advanced Vocational English.** Composition work continued; writing of advertisements; sales talks; informal debates; summaries. Collateral reading: Reid, Courses for the Coming Men. Cooley, Shelter and Clothing.

Vocational curricula; second year; second term; 3 credits; 3 recitations. Text: Webster, English for Secondary Schools.

Eng 23. **Advanced Vocational English.** Study of the modifications of the verb; drill on sequence of tenses; correction of forms of false syntax; review of punctuation; reports on business experiences; letter writing. Collateral reading: Kauffman, The Efficient Age. MacLean, Wage Earning Women.

Vocational curricula; second year; third term; 3 credits; 3 recitations. Text: Gardiner, Kittredge, and Arnold, Manual of Composition and Rhetoric.

Eng 31. **Junior Secondary English.** The object of offering this course is to afford students not having completed the English work of the third year of the secondary school an opportunity to take that work. The course, closely conforming to the State Course of Study, involves intensive study and practice in the four forms of discourse. Writing of exercises in narration and description; study of the incentive moment, plot, climax, conclusion; oral narration; description in narration; point of view; effectiveness in description; choice of words; synonyms; oral description. Collateral reading: Bolton, Lives of Poor Boys Who Became Famous.

Vocational curricula; second year; first term; 3 credits; 3 recitations. Text: Brooks, English Composition.

Eng 32. **Junior Secondary English.** Study of exposition; the logical definition; outlines; the paragraph; the summary; the review; business letters; telegrams; oral exposition; daily and weekly themes in exposition; oral exposition. Collateral reading: Latimer, Girl and Woman.

Vocational curricula; second year; second term; 3 credits; 3 recitations. Text: Brooks, English Composition.

Eng 33. **Junior Secondary English.** Argument. Study of the proposition; the brief; the proof; deduction and induction; fallacies; refutation; persuasion; elements of debate; grammar and diction; review of all forms of discourse. Collateral reading: Daniels, The Furnishing of a Modest House. Smith, What Can Literature Do for Me?

Vocational curricula; second year; third term; 3 credits; 3 recitations. Text: Brooks, English Composition.

ENTOMOLOGY

The courses in Entomology are planned to acquaint the student with the proper relationship of entomology to general agriculture; to prepare students for specialized entomological training; and to meet the needs of students from other departments who desire work in Entomology. Two fields of advanced work in Entomology are offered: Applied Entomology and Forest Entomology.

The general courses in Economic Entomology are designed to provide the student with a practical grasp of the principles of applied Entomology including a knowledge of the commoner pests, their general habits and life-history, and the application of the most approved principles in insect-pest control.

Forest Entomology includes a general consideration of the main insect groups and their relationships. An intensive study of the main groups of forest insects is made and practical investigation of forest areas is assigned in order to teach the type and extent of insect infestation, methods in forest surveys and in report writing, and the principles underlying forest insect control.

Advanced courses are planned to equip students specializing in Entomology with a fundamental groundwork in the science sufficient to prepare them for effective service in applied Entomology and to fit them for advanced research study.

Equipment. This department occupies rooms on the third floor of Agricultural Hall. The laboratories are well equipped for teaching general Entomology and fairly well equipped for advanced research work. In the museum are 3,650 determined species of insects, largely Oregon forms. A display of Ricker mounts and St. Louis boxes containing life-history studies of injurious forms and their typical injury are available. The entomological library is a source of considerable pride, being well supplied with old volumes, complete sets of entomological periodicals, reports, and memoirs. Through the courtesy of the librarian of the United States Department of Agriculture students may borrow entomological literature from the library of the Department of Agriculture and the Congressional Library.

COLLEGIATE COURSES

Ent 301. Principles of Economic Entomology. Designed primarily for general agricultural students. A consideration of typical economic forms of insects in the principal orders and more important families, and of the principles of insect-pest control.

Prerequisite: ZP 130. Required in Agriculture (plant group); junior year; first term; 4 credits; 3 recitations; 1 three-hour and 1 two-hour laboratory periods. Fee \$1.00. Text: Osborn, *Agricultural Entomology*.
W. J. Chamberlin, B. Black

Ent 303. General Entomology. Collection, preservation, and elementary classification of insects. In field collecting, the economic aspects are emphasized. Life-history studies, the use of breeding cages, and practice in compiling field and laboratory notes receive attention.

Prerequisite: Ent 301. Required in Entomology; junior year; third term; 4 credits; 3 recitations; 1 three-hour and 1 two-hour laboratory periods. Fee \$3.00. Text: Comstock, Manual for the Study of Insects. *W. J. Chamberlin, B. Black*

Ent 331. Beekeeping. A practical course in actual apiary manipulations designed primarily for students interested in Horticulture. The College has a small apiary where the simpler manipulations may be mastered. Trips are made to commercial apiaries for the benefit of those interested in commercial beekeeping.

Elective; third term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$3.00. Text: Phillips, Beekeeping. *B. Black*

Ent 351. Insect Morphology. A study of the fundamentals of external, internal, and comparative morphology of insects including adaptive structures and their utility, and wing venation. Especial attention is given to structures used in classification.

Prerequisite: Ent 301. Required in Entomology; junior year; second term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$2.00. *F. H. Lathrop*

Ent 404. Advanced Economic Entomology. An intensive consideration of specific insect pests of farm, garden, and orchard, particularly of the Northwest, and their control; latest developments in insecticides and their uses.

Prerequisite: Ent 301. Required in Entomology; elective to others; senior year; first term; 3 credits; 3 recitations or lectures; 1 three-hour laboratory period. Text: Sanderson, Insect Pests of Farm, Garden, and Orchard. *L. Lovett, B. Black*

Ent 321. Forest Entomology. An intensive study of insects injurious to forests and forest products, forest insect surveys, and the principles of forest insect control.

Required in Forestry; junior year; second term; 4 credits; 2 recitations; 2 three-hour laboratory periods. Fee \$1.00.

W. J. Chamberlin

Ent 422. Forest Entomology. A continuation of Ent 321.

Elective; senior year; first term; 3 credits; 2 recitations or lectures; 2 two-hour laboratory periods. Fee \$2.00. *W. J. Chamberlin*

Ent 452. Insect Ecology. A study of insects in relation to their surroundings, considering the interrelations of insects with each other

and with other animals and plants; influence of climate and other natural phenomena upon the distribution and activities of insects and application of these factors to Economic Entomology.

Prerequisite: Ent 303. Required in Entomology; senior year; second term; 5 credits; 3 recitations; 3 two-hour laboratory periods. Fee \$3.00. Text: Folsom, Entomology with Reference to Its Biological and Economic Aspects.

F. H. Lathrop

Ent 453. **Insect Taxonomy.** The collection, preservation, and classification of insects of the several orders; intensive study of insects of selected groups; attention to phylogenetic relationships and distribution.

Prerequisite: Ent 307. Required in Entomology; senior year; third term; 5 credits; 2 recitations; 3 three-hour laboratory periods.

F. H. Lathrop

Ent 473. **The Teaching of Entomology.** Designed primarily for high school teachers. The principles of Entomology including materials and methods.

Prerequisites: Bot 471, ZP 472. Elective to seniors and graduate students; third term; 5 credits; 4 lectures; 2 three-hour laboratory periods. Fee \$2.00.

Ent 481, 482, 483. **Seminar.** Reading, discussing, and abstracting of the leading articles on entomological topics as they appear in current scientific literature.

Elective to senior and graduate students in Entomology; three terms; 1 credit.

L. Lovett

Ent 691, 692, 693. **Advanced Thesis and Research Methods.** A course offered only for graduate students. Students select problems in Applied Entomology; problems in Insect Ecology; monographic problems, etc.; emphasis on methods in research.

Elective to graduate students; three terms; credits to be arranged.

L. Lovett

VOCATIONAL COURSE

Ent 14. **Injurious Insects.** A practical course in Entomology, including the life-history, habits, and control of insects of farm, garden, and orchard.

Required in Agriculture Vocational Curriculum; third term; 3 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$1.00. Text: Osburn, Economic Entomology.

W. J. Chamberlin

HISTORY

A knowledge of history is fundamental to leadership. Courses in History are required in the School of Commerce and are offered in all other schools of the College. The instruction is given largely by lectures, supplemented by the reference facilities of the College Library.

COLLEGIATE COURSES

Hst 111. **European History.** This course includes the study of European history from the time of Louis XIV to the banishment of Napoleon.

Elective; first term; 3 credits; 3 recitations. Text: Robinson and Beard, *The Development of Modern Europe*, Vol. I. *J. B. Horner*

Hst 212. **Europe Since 1815.** This course comprises a study of Europe from the fall of Napoleon to the present time.

Required in Commerce; sophomore year; third term; 3 credits; 3 recitations. *J. B. Horner*

Hst 121. **Early American History.** From the discovery of America to the Civil War.

Elective; first term; 3 credits; 3 recitations. *J. B. Horner*

Hst 122. **Recent History of the United States.** History of the United States of America from the Civil War to the present time. Collateral with the text, such matters as the negro problem, the industrial revolution, capitalism and socialism, free silver, direct government, woman suffrage, the new nationalism, imperialism, the labor movement, the Panama-Colombia question, our relations with Europe and the Latin-American republics, are discussed.

Required in Commerce; freshman year; second or third term; 3 credits; 3 recitations. *J. B. Horner*

Hst 411. **History of the British Empire.** A coherent view of the larger factors influencing the national development from early times to the British Empire of today.

Elective; senior year; first term; 3 credits; 3 recitations. *J. B. Horner*

Hst 421. **American Diplomatic History.** History of the chief events in American foreign affairs; changed policies of our Government; character studies of the leading men in our diplomatic work; application of our experience to present problems.

Elective; senior year; third term; 3 credits; 3 recitations. *J. B. Horner*

Hst 241. **History of Oregon.** Five epochs of Oregon history; early explorations; fur trade and colonization; provisional government; territorial government; state government; Indian folk-lore; history of Oregon literature.

Required in Commerce; sophomore year; second term; 3 credits; 3 recitations. Text: Horner, Oregon. *J. B. Horner*

Hst 331. **History of South America.** The course includes the history of South America, Mexico, and Central America. Assigned reading in College Library.

Elective; junior year; second term; 3 credits; 3 recitations.

J. B. Horner

Hst 351. **Representative Men and Women.** Study of American leaders of thought and action. Students may elect fifty percent of their allotment of biographical reference work, subject to approval of the instructor. Lectures, assigned reading, and discussion.

Elective; junior year; third term; 3 credits; 3 recitations.

J. B. Horner

VOCATIONAL COURSE

Hst 10. **United States History.** Brief course covering the leading events of our history.

Elective in Vocational curricula; first term; 3 credits; 3 recitations. Text: Channing, United States History. *J. B. Horner*

MATHEMATICS

COLLEGIATE COURSES

Mth 101. Counting Room Mathematics. Short methods of calculation, use of logarithms, slide rule, comptometer, and other standard calculating devices.

Required in Commerce; freshman year; first or second term; 3 credits; 3 recitations. *F. C. Kent*

Mth 102. Mathematics of Investment. Preliminary review of logarithms and series with application to compound interest; problems relating to sinking funds, depreciation, amortization of bonds, annuities, building and loan associations, and the national farm loan organizations.

Prerequisite: One year of high-school Algebra and one year of Plane Geometry; Mth 101 advised. Required in Commerce; open to others qualified; freshman year; second or third term; 3 credits; 3 recitations. *F. C. Kent*

Mth 103. Elements of Statistical Methods. Recitations and laboratory practice in the study of statistical data obtained by estimate, observations, and enumeration; representation of data by tables and graphs. Other topics studied are: probability, variation, dispersion, skewness, frequency curves, and smoothing of statistics.

Required in Commerce; open to others qualified; freshman year; first or third term; 3 credits; 1 recitation; 1 lecture; 2 two-hour laboratory periods. *F. C. Kent*

Mth 111. Plane Trigonometry. This course includes functions of acute angles, right angles, functions of any angle, relations between functions, inverse functions, trigonometric equations, and oblique triangles. Considerable time is devoted to the deduction of trigonometric formulae, study of trigonometric identities, and the solution of practical problems.

Required in Engineering; freshman year; any term; 4 credits; 5 recitations.

E. B. Beaty, N. Tartar, H. L. Beard, F. C. Kent, J. A. Van Groos

Mth 121. Algebra. A course for freshmen in Engineering whose work in Mth 111 discloses need for further preparation in Algebra before continuing their Mathematics.

Required of Engineering students found deficient in Algebra; freshman year; second term; 4 credits; 5 recitations. *N. Tartar*

Mth 131. Elementary Analysis. Review of Algebra including radical expressions, quadratic equations, binomial theorem, progressions, and complex numbers. In Analytical Geometry the point,

straight line, circle, conic sections, and some of the higher plane curves are studied. Considerable time is given to the plotting of curves in both rectangular and polar coordinates.

Required in Engineering, Forestry, and Mines; freshman year; second or third term; 4 credits; 4 recitations.

E. B. Beaty, N. Tartar, F. C. Kent, and others

Mth 132. Elementary Analysis. A continuation of Mth 131. Subjects studied are functions and graphs, formula for differentiation, tangents and normals, maxima and minima, rates, and standard forms of integration.

Required in Engineering, Forestry, and Mines; freshman year; first or third term; 4 credits; 5 recitations.

E. B. Beaty, N. Tartar, H. L. Beard, F. C. Kent, and others

Mth 141. Plane Analytic Geometry. Offered for students who enter the sophomore year deficient in Analytic Geometry. The topics studied are the point, the straight line, polar coordinates, transformation of coordinates, the circle, conic sections, tangents, diameters, discussions of general equations of the second degree, problems in loci, and higher plane curves.

Required in Engineering of students deficient in Analytic Geometry; sophomore year; first term; 4 credits; 5 recitations.

H. L. Beard

Mth 251. Differential Calculus. Differentiation; simple applications of the derivative; successive differentiation; maxima and minima; points of inflection; curve tracing; differentials; rates; change of variable; indeterminate forms; partial differentiation.

Required in Engineering; sophomore year; first or second term; 4 credits; 5 recitations.

C. L. Johnson, E. B. Beaty, F. C. Kent

Mth 252. Integral Calculus. Standard forms of integrations; integration of trigonometric differentials; constant of integration; the definite integral; integration of rational fractions.

Required in Engineering; sophomore year; first or second term; 4 credits; 5 recitations.

C. L. Johnson, E. B. Beaty, F. C. Kent

Mth 253. Integral Calculus. A continuation of Mth 252. Integration by rationalization; integration as a process of summation with applications; successive integration; ordinary differential equations.

Required in Engineering; sophomore year; third term; 4 credits; 5 recitations.

C. L. Johnson, E. B. Beaty, F. C. Kent

Mth 301. Mathematics of Insurance. The aim of this course is to explain and illustrate the applications of mathematics to fundamental problems of life insurance with stress upon financial problems.

Prerequisites: Mth 102, 103, or one year of College Mathematics. Elective; third term; 3 credits; 3 recitations. *F. C. Kent*

Mth 361. Differential Equations. Study of the solution of ordinary and partial differential equations which the Engineering student is likely to encounter.

Prerequisites: Mth 251, 252, 253. Elective; junior year; first term; 3 credits; 3 recitations. *C. L. Johnson*

Mth 371. Method of Least Squares.

Prerequisites: Mth 251, 252, 253. Elective; junior year; second term; 2 credits; 2 recitations. *C. L. Johnson*

Mth 381. Hyperbolic Functions.

Prerequisites: Mth 251, 252, 253, 361. Elective; junior or senior year; third term; 2 credits; 2 recitations. *C. L. Johnson*

VOCATIONAL COURSES

Mth 21, 22, 23. Algebra. Drill in the fundamental operations; use of parentheses; special rules of multiplication and division; factoring; solutions of equations by factoring; highest common factor; least common multiple; fractions; equations containing fractions; ratio and proportion; graphical representation; linear system; square root; radicals; graphical solution of equations in one unknown.

Required in Mechanic Arts Vocational Curriculum; three terms; 4 credits each term; 5 recitations. *N. Tartar*

Mth 24. Algebra. Quadratic equations; graphs of quadratic equations; system solved by quadratics; theory of exponents; irrational equations; variation and imaginaries.

Required in Engineering of freshmen who enter with but one year of Algebra; second or third term; 4 credits; 5 recitations.

N. Tartar, H. L. Beard

Mth 81. Plane Geometry. The first two books of Plane Geometry.

Required of freshmen entering deficient in first semester of Plane Geometry; first or second term; 4 credits; 5 recitations.

N. Tartar and others

Mth 82. Plane Geometry. A continuation of Mth 81, covering the last three books of Plane Geometry. Many original exercises are studied.

Required of freshmen who enter deficient in second semester of Plane Geometry; second or third term; 4 credits; 5 recitations.

N. Tartar and others

Mth 85. **Plane Geometry.** This course and Mth 86 are arranged for freshmen who enter deficient in the second semester of Plane Geometry, and who desire two terms for making up the work. The two courses are equivalent to Mth 82.

Elective; freshman year; first term; $2\frac{1}{2}$ credits; 3 recitations.

N. Tartar

Mth 86. **Plane Geometry.** A continuation of Mth 85.

Elective; freshman year; second term; $1\frac{1}{2}$ credits; 2 recitations.

N. Tartar

Mth 88. **Solid Geometry.**

Required in Engineering of freshmen who are deficient in second semester of Solid Geometry; first or third term; 3 credits; 4 recitations.

H. L. Beard

Mth 91, 92, 93. **Commercial Arithmetic.** A review of all the essential operations. Stress on short methods; daily drills in rapid calculation; computation of estimates; partnership settlements, etc.

Required in Commerce Vocational Curriculum; first year; three terms; 3 credits each term; 5 recitations.

N. Tartar

Mth 94. **Shop Arithmetic.** Thorough drill in the principles of Arithmetic, with special application to shop problems of all sorts.

Required in Mechanic Arts Vocational Curriculum; first or third term; 4 credits; 5 recitations.

N. Tartar

MODERN LANGUAGES

The department of Modern Languages offers four years of work each in French, German, and Spanish.

In harmony with all other courses of the College, the final aim of the instruction is practical use in the various spheres of activity and pursuits of life. While the disciplinary and cultural values of language study are duly recognized and emphasized, the predominant purpose is the development of personal power for social service.

A certain amount of specified work in a language is definitely required in some curricula. In other curricula, German, French, and Spanish may be taken as electives, and when so taken, the student receives full credit for any work completed. Elementary classes are formed at the beginning of the first, second, and third terms. Students who have had considerable language work in high schools should consult with the head of the department before registering for a language course.

COURSES

FRENCH

ML 111. Elementary French. Drill in the rudiments of the language; oral and written exercises; idiomatic translations; reading of easy selections.

Elective; any year; any term; 3 credits; 3 recitations.

ML 112. Elementary French. Continuation of ML 111.

Prerequisite: ML 111 or equivalent. Elective; any year; second term; 3 credits; 3 recitations.

ML 113. Elementary French. Continuation of ML 112.

Prerequisite: ML 112 or equivalent. Elective; any year; third term; 3 credits; 3 recitations.

ML 211, 212, 213. Intermediate French. Advanced grammar; irregular verbs; subjunctive mood; reading of narrative, descriptive, and historical prose; oral exercises on texts read.

Prerequisites: ML 111, 112, 113, or equivalent. Elective; any year; three terms; 3 credits each term; 3 recitations.

ML 311, 312, 313. Advanced French. Reading of scientific, technical, and miscellaneous texts with corresponding composition and conversation.

Prerequisites: ML 211, 212, 213, or equivalent. Elective; any year; three terms; 3 credits each term; 3 recitations.

ML 411, 412, 413. Advanced French. Planned especially for prospective teachers of French and others desiring to acquire a

comprehensive knowledge of the language. Advanced composition; reading of advanced texts of various classes of literature; oral and written reports.

Prerequisites: ML 311, 312, 313, or equivalent. Elective; any year; three terms; 3 credits each term; 3 recitations.

SPANISH

ML 121. Elementary Spanish. Essentials of vocabulary and grammar; auxiliaries, regular and radical changing verbs, and some of the more common irregular forms; reading of easy prose selections; idiomatic translations; much oral drill and conversation.

Elective; any year; any term; 3 credits; 3 recitations.

ML 122. Elementary Spanish. Continuation of ML 121.

Prerequisite: ML 121 or equivalent. Elective; any year; second term; 3 credits; 3 recitations.

ML 123. Elementary Spanish. Continuation of ML 122.

Prerequisite: ML 122 or equivalent. Elective; any year; third term; 3 credits; 3 recitations.

ML 221, 222, 223. Intermediate Spanish. Grammar continued; irregular verbs; subjunctive mode in all its uses; idiomatic phrases; social and epistolary forms; reading of suitable texts; oral and written exercises.

Prerequisites: ML 121, 122, 123, or equivalent. Elective; any year; three terms; 3 credits each term; 3 recitations.

ML 321, 322, 323. Advanced Spanish. Reading of commercial texts; commercial correspondence; descriptive and technical prose; much conversation.

Prerequisites: ML 221, 222, 223, or equivalent. Elective; any year; 3 terms; 3 credits each term; 3 recitations.

ML 421, 422, 423. Advanced Spanish. Especially for prospective teachers and others desiring a comprehensive knowledge of Spanish. Advanced composition; reading of advanced texts of the various classes of literature; oral and written reports.

Prerequisites: ML 321, 322, 323, or equivalent. Elective; any year; three terms; 3 credits each term; 3 recitations.

GERMAN

ML 131. Elementary German. Rudiments of the language; oral and written exercises; translation of easy selections.

Elective; any term; 3 credits; 3 recitations.

ML 132. Elementary German. Continuation of ML 131.

Prerequisite: ML 131 or equivalent. Elective; second term; 3 credits; 3 recitations.

ML 133. **Elementary German.** Continuation of ML 132.

Prerequisite: ML 132 or equivalent. Elective; third term; 3 credits; 3 recitations.

ML 231, 232, 233. **Intermediate German.**

Prerequisites: ML 131, 132, 133, or equivalent. Elective; 3 terms; 3 credits; 3 recitations.

ML 331, 332, 333. **Advanced German.**

Prerequisites: ML 131, 132, 133, 231, 232, 233, or equivalent. Elective; three terms; 3 credits each term; 3 recitations.

ML 431, 432, 433. **Advanced German.**

Prerequisites: ML 331, 332, 333, or equivalent. Elective; three terms; 3 credits each term; 3 recitations.

PHYSICS

Endeavor is made to adapt each course in Physics to the needs of those taking it. The text used by students in Engineering and Agriculture was written especially for technical students. "Physics of the Household" was likewise written especially for students in Home Economics.

While in all courses the practical side is emphasized both in lecture and in laboratory work, the theory of the subject, in so far as it deals with the fundamental principles of Physics, receives the attention which its importance demands.

Since Physics and Chemistry are basic sciences, it would seem that every college graduate should have had at least a general course in each of these subjects. The department accordingly urges that at least all students who have not had Physics in high school elect some work in Physics after consultation with the head of the department. Those expecting to teach Physics in high schools should by all means take several courses.

Equipment. The general laboratory has a good working equipment, the apparatus being such as to allow a qualitative or quantitative verification of the most important laws. In addition to the general laboratory, the department has two special laboratories, one equipped for electrical measurements and the other for photometry. A partial list of the apparatus found in these follows: standard cells, shunts, capacities and inductances; secohmeter; Leeds and Northrup potentiometer; Siemens and Halske standard ammeters, voltmeter, and portable testing set; Paul unipivot testing set; storage cells of large current capacity for ammeter and wattmeter calibrations; 10½-inch spark coil; Gaede pump; large Tesla coil; Leeds and Northrup photometer fitted with lamp rotator, rotating sector, Lummer-Brodhum screen, and Bechstein flicker photometer.

In the general library are many recent Physics texts and allied works, as well as a number of Physics periodicals, which are available to all.

COURSES

Ph 111, 112, 113. Engineering Physics. A course in mechanics, heat, sound, light, electricity, and magnetism.

Prerequisite: Trigonometry. Required in Engineering; (freshman year) and in Forestry and Mines (sophomore year); three terms; 3 credits each term; 2 lectures; 2 recitations; 1 two-hour laboratory period. Fee \$2.00 each term. Text: Anderson, Physics.

W. B. Anderson

Ph 200. Household Physics. A brief descriptive course with such applications as are of greatest interest to students in Home Economics.

Required in Home Economics; sophomore year; second* or third term; 5 credits; 2 lectures; 3 recitations; 2 two-hour laboratory periods. Fee \$2.00. Text: Lynde, Physics. *Ardis T. Monk*

Ph 201, 202. **General Physics.** A course in General Physics covering the subjects of mechanics, heat, sound, light, electricity, and magnetism.

Prerequisite: Geometry. Optional in Agriculture and Commerce; sophomore year; first and second terms; 3 credits each term; 2 lectures; 2 recitations; 1 two-hour laboratory period. Fee \$2.00 each term. Text: Anderson, Physics. *F. E. Knowles*

Ph 210. **Advanced Engineering Physics.** An advanced course in heat, light, and electricity.

Prerequisite: Ph 111, 112, 113. Required in Chemical Engineering (sophomore year); elective to advanced students; third term; 3 credits; 2 lectures; 2 recitations; 1 two-hour laboratory period. Fee \$2.00. *W. B. Anderson*

Ph 261, 262. **Photography.** Intended for students planning to make use of the camera in their chosen fields. Practical use of the camera; photographic processes; enlarging and reproduction work; photography of colored objects; making of lantern slides; theory and practice of color photography; and other topics. (Limited to about twenty students each term.)

Elective; first and second terms; 3 credits each term; 1 lecture; 1 recitation; 2 two-hour laboratory periods or their equivalent in field work. Fee \$3.00 each term.

Ph 290. **Descriptive Astronomy.** A brief elementary course in Astronomy designed to acquaint the student with the most important facts relating to the heavenly bodies, and to make him an intelligent observer of the more common astronomical phenomena. Descriptive rather than mathematical in character.

Elective; third term; 2 credits; 2 recitations or equivalent in lectures and observational work, depending upon weather conditions. Text: Young, Astronomy. *F. E. Knowles*

Ph 351. **Heat and Light.** An advanced course, taking up the phenomena of heat and light in detail, including recent discoveries.

Elective: First term; credit to depend on work done. Fee \$2.00.

Ph 352. **Electricity and Magnetism.** An advanced course with suitable practice in the laboratory.

Elective; second term; credit to depend on work done. Fee \$2.00.

Ph 353. **Wireless Telegraphy.** A study of electric waves, their measurement, and their application to practical wireless telegraphy.

Elective; third term; 3 credits. Fee \$2.00.

* Students taking Ph 200 in the second term take Ch 222 in the third term, and vice versa.

ZOOLOGY AND PHYSIOLOGY

The work in Zoology and Physiology is adapted, so far as possible, to the particular needs of students in Agriculture, Forestry, Pharmacy, and Home Economics. Opportunity is offered, to those who desire it, to receive training for teaching Zoology, Physiology, or Nature Study in public schools; for the development of the game and food resources of the State; or for the pursuance of studies in the field of research. In connection with the curriculum in Pharmacy, the required work forms a valuable pre-medical course of study.

Equipment. The laboratories of the department occupy rooms on the third floor of Agricultural Hall. As an adjunct to the laboratory facilities a set of nursery troughs for fish-cultural purposes has been erected on the campus adjacent to the zoological laboratory. The museum, in addition to a beautiful collection of native birds, contains a small collection of mounted mammals, the Ladd collection of bird skins, and numerous miscellaneous specimens.

COURSES

ZP 101, 102. General Zoology. A general introduction to advanced courses in the department; designed also for students who, without intending to pursue the subject further, desire a general view of zoological work and its problems; lectures and laboratory work supplemented by collateral reading and field investigation.

Required in Pharmacy; elective to others; freshman year; first and second terms; 3 credits each term; 2 lectures; 1 three-hour laboratory period. Fee \$1.50 each term. Deposit \$1.00.

Aravilla Taylor, J. O. Foley

ZP 103. Comparative Vertebrate Zoology. The structure and significance of the various organs of vertebrates with particular reference to man.

Prerequisite: ZP 101, 102. Required in Pharmacy; elective to others; freshman year; third term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$1.50. Deposit \$1.00.

G. F. Sykes, J. O. Foley

ZP 130. Principles of Economic Zoology. The facts and conditions that render animal life an important factor in economic problems, prefaced by a study of animal forms, distribution, and habits; the physiological functions of the body. Lectures, laboratory work, and collateral reading.

Required in Agriculture; freshman year; any term; 5 credits; 3 lectures; 2 three-hour laboratory periods. Fee \$1.50. Deposit \$1.00.

H. M. Wight

ZP 211, 212, 213. Physiology and Anatomy. A study of the structure, significance, and function of the human body, with reference to the animal body in general. The laboratory course includes some work upon the gross anatomy and the histology of the various tissues and organs of a typical mammal; also includes experiments and demonstrations with foods, the study of blood, nerve, muscle, reactions, etc.

Prerequisites: ZP 101, 102, 103, or equivalent. Required in Pharmacy; sophomore year; three terms; 3 credits each term; 2 lectures; 1 three-hour laboratory period. Fee \$1.50 each term. Deposit \$1.00.

G. F. Sykes, J. O. Foley

ZP 233. Animal Ecology. A dynamic interpretation of animal life; contact in the field with vital economic problems, agricultural and sylvan.

Prerequisite: ZP 131. Elective; sophomore or junior year; third term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$1.50. Deposit \$1.00.

H. M. Wight

ZP 312, 313. Embryology and Histology. The origin and development of the animal body; the elementary structure of the adult organs and tissues; a study of the chick and pig with reference to other animals and man; practice in micro-technique, killing, fixing, imbedding and sectioning.

Prerequisite: ZP 103 or equivalent. Elective; junior or senior year; second and third terms; 4 credits each term; 2 lectures; 2 three-hour laboratory periods. Fee \$2.00 each term. Deposit \$3.00.

G. F. Sykes

ZP 321. General Physiology. The object of this course is to give the Home Economics student knowledge of life processes and anatomical relationships which are necessary in maintaining the highest efficiency of the human mechanism; the chief functions of the human body; laws of health falling within the province of the physiologist.

Required in Home Economics; junior year; any term; 5 credits; 3 lectures; 2 three-hour laboratory periods. Fee \$1.50. Deposit \$1.00.

Aravilla Taylor

ZP 322. Neuro-Physiology. An advanced course dealing with the nervous system and its conservation.

Prerequisite: ZP 321 or equivalent. Elective; second term; 3 credits; 2 lectures; 1 three-hour laboratory period. Deposit \$3.00.

ZP 323. Nutritional Physiology. An advanced course dealing with the process of digestion, absorption, nutrition, secretion, and excretion.

Prerequisite: ZP 321 or equivalent. Elective; third term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Deposit \$3.00.

Prerequisite: ZP 342. Elective in Agriculture and Forestry; junior or senior year; third term; 3 credits; hours to be arranged. Fee \$1.50. Deposit \$1.00. *G. F. Sykes*

ZP 331. Taxidermy and Zoological Collecting. Laboratory and field course in the methods involved in preparation of skins and the preservation of museum specimens; study and practice in the methods involved in field survey work.

Prerequisite: ZP 131 or equivalent. Elective in Agriculture and Forestry; first term; credits to be arranged. Deposit \$1.00.

H. M. Wight

ZP 341. Aquiculture. Lecture, laboratory, and field course dealing with the problems and methods of sea-farming and fish culture; the hatching and rearing of fish and other aquatic food animals; the planting and care of oyster and clam beds; various methods of production and preparation for market.

Prerequisite: ZP 131 or equivalent. Elective in Agriculture and Forestry; junior or senior year; first term; 3 credits; hours to be arranged. Fee \$1.50. Deposit \$1.00.

G. F. Sykes

ZP 342. Aquiculture. A continuation of ZP 341, dealing primarily with fresh water problems.

Elective in Agriculture and Forestry; junior or senior year; second term; 3 credits; hours to be arranged. Fee \$1.50. Deposit \$1.00.

G. F. Sykes

ZP 343. Aquiculture. A continuation of ZP 342, dealing with practical problems and experimental methods.

Prerequisite: ZP 342. Elective in Agriculture and Forestry; junior or senior year; third term; 3 credits; hours to be arranged. Fee \$1.50. Deposit \$1.00.

G. F. Sykes

ZP 351. Genetics. A lecture course dealing with the general principles of heredity, and the factors involved in variation and inheritance; fundamental principles of breeding with respect to their application both to the human and to the domestic forms.

Required in Agriculture; junior year; any term; 3 credits; 3 lectures; 1 two-hour laboratory period. Fee \$0.25.

G. F. Sykes

ZP 361. Animal Parasites. Study of such parasitic forms as flukes, tapeworms, nematodes, fish "lice," cattle ticks, etc., that affect the health of man and of domestic and food animals. The study is primarily ecological, the object being to obtain a knowledge of the conditions which produce parasitism, to the end that by intelligent control, diseases and economic losses may be prevented.

Prerequisites: ZP 101, 130, or equivalent. Elective; junior or senior year; first term; 3 credits; hours to be arranged. Fee \$1.00. Deposit \$1.00.

ZP 363. Protozoology. Study of microscopic animals with a view to their relation, beneficially or injuriously, to man, particular attention being paid to such pathogenic forms as blood spores and enteric parasites, with some reference to soil protozoans and water animalcules.

Prerequisite: ZP 101 or equivalent. Elective; third term; 3 credits; hours to be arranged. Fee \$1.00. Deposit \$1.00.

ZP 441. Game Propagation. A laboratory and reading course, supplemented by field work in propagation of food animals of the field and forest; breeding and protection of game birds and mammals; methods of conducting game reservations; comparative study of game laws.

Elective in Agriculture and Forestry; first term; 2 credits; 1 lecture; 1 laboratory period; hours to be arranged. Fee \$0.25.

G. F. Sykes

ZP 451. Racial Biology. Designed not only for the general student but also for students particularly interested in the modern biological background of sociological, psychological, and ethical theory.

Elective; first term; 3 credits; 3 lectures. Fee \$0.25.

G. F. Sykes

ZP 472. The Teaching of Zoology. A course in principles and materials of Zoology for high-school teachers and others. Coordinates with Bot 471 and Ent 473.

Elective; second term; 5 credits; 3 lectures; 2 three-hour laboratory periods. Fee \$1.50. Deposit \$1.00.

G. F. Sykes, H. M. Wight

ZP 681, 682, 683. Zoological Seminar. Current problems in Zoology.

Elective; senior or graduate year; three terms; 1 credit each term; 1 hour of attendance.

G. F. Sykes

ZP 691, 692, 693. Research and Thesis. Opportunity is given students who desire to specialize in Zoology and Physiology to take up work not given in the regular courses, or to undertake the investigation of special problems. Either major or minor work for the master's degree may be carried in this department. It is the policy of the department to allow the student to develop his own initiative in the selection of a problem, and in outlining and conducting his investigations, with the cooperation of the department.

Elective; senior or graduate year; three terms; credits to be arranged. Deposit \$3.00.

G. F. Sykes

CHEMICAL ENGINEERING

RALPH KEMPTON STRONG, Ph.D., Professor of Industrial Chemistry

Chemical Engineering has become a necessary science in the economic management of many of the industries of life. The present need in this country to create new industries to supply products of manufacture formerly imported from abroad, has emphasized the demands upon chemistry and chemical engineering.

The curriculum in Chemical Engineering is arranged so that attention is given during the first two years to fundamental work in Chemistry, both general and analytical, Physics, and Mathematics. In the last two years, specialized work is taken in applied Chemistry, and Mechanical and Electrical Engineering. The student is recommended to broaden this work by courses in English, French, and Economics.

The courses in Industrial or Applied Chemistry given in connection with Chemical Engineering are arranged as follows: (1) Engineering Chemistry; (2) Industrial Inorganic Chemistry (two courses); (3) Industrial Organic Chemistry (two courses); (4) Electrochemical Industries; (5) Processes of Industrial Chemistry (three courses). After performing a limited number of standard experiments in Industrial Chemistry, the student is assigned special problems, thus enabling him to follow a given line more fully. Problems are studied as to: (1) Raw Materials; their valuation and treatment. (2) Process; chemical control and types of apparatus employed in chemical work. (3) Products of Manufacture; their purity and uses. Methods of analysis and the processes involved in large-scale manufacture are examined as described in current literature.

Local chemical industries are regularly visited for the purpose of observing operation on a large scale. Companies engaged in this work have been most generous in their cooperation.

Graduates obtain positions in chemical works, either in the laboratory or plant; in analytical and consulting laboratories; as Federal, state, or municipal chemists; or as teachers in high schools and colleges. Students pursuing this curriculum are well prepared to teach Chemistry and Physics, and may elect Vocational Education, thus enabling them to fulfill the State Teachers' Requirements.

Equipment. The department is located on the first floor of the Mines Building, where facilities are provided for laboratory practice in industrial chemical work. The laboratory is equipped with cold and hot water, gas, steam, compressed air, vacuum pumps, precision balances, scales for heavy weighing, kettles, filters, direct

and alternating electric current, drying ovens, hot plates, furnaces, and supplies of regulation apparatus and chemicals. The standard reference works and texts in all branches of Chemistry are kept in the laboratory for constant use, and the best technical magazines are likewise consulted. The student is given every opportunity to keep informed in regard to current developments. The library has complete sets of many of the chemical journals.

DEGREE CURRICULUM IN CHEMICAL ENGINEERING

Freshman Year

| | 1st | Term 2d | 3d |
|---|------------------------|------------------------|------------------------|
| General Chemistry, Qualitative Analysis, Ch 104, 105, 106, 131 | 5 | 5 | 5 |
| Engineering Physics, Ph 111, 112, 113 | 3 | 3 | 3 |
| Plane Trigonometry, Elementary Analysis, Mth 111, 131, 132 | 4 | 4 | 4 |
| Mechanical Drawing, ME 111 | 3 | | |
| Descriptive Geometry, ME 113 | | 3 | |
| Forging and Tool Dressing, IA 253 | | | 3 |
| Gymnasium, PE 111, 112, 113 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ |

Sophomore Year

| | 1st | Term 2d | 3d |
|---|------------------------|------------------------|------------------------|
| Qualitative, Quantitative Analysis, Ch 233, 244, 245 | 5 | 5 | 5 |
| Crystallography, G 214 | 3 | | |
| Mineralogy, G 215 | | 3 | |
| Advanced Engineering Physics, Ph 210 | | | 3 |
| Differential, Integral Calculus, Mth 251, 252, 253 | 4 | 4 | 4 |
| English Composition, Eng 101, 102, 103 | 3 | 3 | 3 |
| Gymnasium, PE 211, 212, 213 | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 1 | 1 | 1 |
| | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ |

Junior Year

| | 1st | Term 2d | 3d |
|---|-----|------------|----|
| Engineering Chemistry, ChE 311 | 5 | | |
| Industrial Inorganic Chemistry, ChE 321, 322 | | 5 | 5 |
| Organic Chemistry Organic Analysis, Ch 226, 227, 328 | 5 | 5 | 5 |
| Materials Testing Laboratory, MM 313 | 2 | | |
| Power Laboratory, ME 331 | | 2 | |
| Hydraulic Laboratory, IE 335 | | | 2 |
| Elementary French, ML 111, 112, 113 | 3 | 3 | 3 |
| Military Science and Tactics | 2 | 2 | 2 |
| | — | — | — |
| | 17 | 17 | 17 |
| * Pedagogy | 3 | 3 | 3 |

Senior Year

| | 1st | Term 2d | 3d |
|---|-----|------------|----|
| Industrial Organic Chemistry, ChE 431, 432 | 5 | 5 | |
| Electrochemical Industries, ChE 441 | | | 5 |
| Processes of Chemical Engineering, ChE 451, 452, 453 | 3 | 3 | 3 |
| Physical Chemistry, Ch 481, 482, 483 | 3 | 3 | 3 |
| Technical Electricity, EE 251 | 3 | | |
| Electrical Machinery, EE 252 | | 3 | |
| Metallography and Pyrometry, MM 481..... | | | 3 |
| Introduction to Economics, ES 391 | 3 | | |
| National, or State and Local Government, PS 301 or 302 | | 3 | |
| Business Organization, BA 331 | | | 3 |
| | — | — | — |
| | 17 | 17 | 17 |
| * Pedagogy | 3 | 3 | 3 |

COURSES

ChE 311. **Engineering Chemistry.** A course of lectures and laboratory work on the subjects of fuel, combustion, refractories, lubricants, boiler feed waters, iron, steel, alloys, cements.

Required in Chemical Engineering; junior year; first term; 5 credits; 2 lecture periods; 2 three-hour laboratory periods. Fee \$7.50. Deposit \$2.50.

R. K. Strong

* Students wishing to take courses preparatory to teaching may substitute Pedagogy for an equivalent credit (except Economics, Political Science, and Business Organization) on approval of the head of the department.

ChE 321, 322. **Industrial Inorganic Chemistry.** The principal inorganic industries studied in lectures and in the laboratory from the standpoint of modern scientific and applied Chemistry. The laboratory instruction is arranged to develop ability on the part of the student to carry on independent work with confidence. The principles involved in the problems are carefully studied before the laboratory manipulation is attempted.

Required in Chemical Engineering; junior year; second and third terms; 5 credits each term; 2 lecture periods; 2 three-hour laboratory periods. Fee \$7.50 each term. Deposit \$2.50 each term.

R. K. Strong

ChE 431, 432. **Industrial Organic Chemistry.** Lectures and laboratory work covering the chief organic branches of industrial chemistry. Emphasis is given to the fundamental principles involved in the various processes studied. The topics studied include: mineral, vegetable, and animal oils; soap; glycerine; rubber; leather; explosives; sugar; starches; destruction distillation of coal and wood.

Required in Chemical Engineering; senior year; first and second terms; 5 credits each term; 2 lecture periods; 2 three-hour laboratory periods. Fee \$7.50 each term. Deposit \$2.50 each term.

R. K. Strong

ChE 441. **Electrochemical Industries.** Applications of the electric current to the manufacture of chemical materials by electrolytic and electrothermal methods. In the lectures and laboratory work the following topics are treated: sodium hydroxide and chlorine, hypochlorites, chlorates, perchlorates, oxygen, hydrogen, carbide, graphite, carbon disulfide, phosphorus, sodium, magnesium, aluminum.

Required in Chemical Engineering; senior year; third term; 5 credits; 2 lectures; 2 three-hour laboratory periods. Fee \$7.50. Deposit \$2.50.

R. K. Strong

ChE 451, 452, 453. **Processes of Chemical Engineering.** Principles of, and current practice in, the standard processes used in industrial chemical operations.

Required in Chemical Engineering; senior year; three terms; 3 credits each term; 1 lecture; 2 two-hour laboratory periods. Fee \$4.50 each term.

R. K. Strong

INDUSTRIAL JOURNALISM

FRANCIS LAWRENCE SNOW, Professor of Industrial Journalism.

CHARLES JARVIS MCINTOSH, Assistant Professor of Industrial Journalism; Agricultural Press Editor.

Courses in Industrial Journalism are offered to train students to write and edit material on various subjects embraced within the distinctive field of the College, such as Agriculture, Engineering, Forestry, Mining, Home Economics, and the like; to enable them to appreciate the point of view of the editors of farm and trade journals, and to cooperate effectively with them; to conduct campus publications and other publications of a technical nature; and to furnish scientific material in popular form to the papers.

These courses are intended to meet the needs of a large group of persons—farmers, county agricultural agents, home demonstration agents, field specialists in the Extension Service, research specialists at the Agricultural Experiment Stations, teachers of industrial subjects, and others who may have occasion to prepare material for the press on industrial subjects.

The courses taught are thoroughly practical and form a valuable asset for those who aim to become leaders of community enterprises through the press and in any other capacity for which their technical training fits them. Industrial Journalism does not displace fundamental work in English but supplements it by giving the technique of journalistic writing.

COURSES

IJ 200. Elementary Industrial Journalism. Intended primarily to give students the fundamental principles of news writing. Prepares them for writing technical articles on subjects pertaining to Agriculture, Home Economics, Engineering, etc. Required as a condition of eligibility for leading positions on the staffs of student publications.

Elective; sophomore, junior, or senior year; any term; 3 credits. Fee \$1.00. Text: Spencer, News Writing. *F. L. Snow*

IJ 310. Industrial Journalism. Continuation of work in course IJ 200. Principles of journalism are applied to the treatment of industrial subjects. Types of news stories are studied, feature stories being given special consideration.

Prerequisite: IJ 200. Elective; junior or senior year; second term; 3 credits; 3 lecture periods. Fee \$1.00. *F. L. Snow*

IJ 320. Editing. Copy reading, head writing, proof reading, and make-up. Actual experience is given in editing copy for publication. Training is offered that fits students for the work of putting out campus publications.

Prerequisites: IJ 200, 310. Elective; junior or senior year; third term; 3 credits; 3 lecture periods. Fee \$1.00. *C. J. McIntosh*

IJ 330. Technical Journalism. Students are required to prepare copy on subjects pertaining to Agriculture, Engineering, Commerce, Home Economics, etc., and to submit it for publication in farm journals, trade journals, and other periodicals. A study is made of the demands of these publications for material of a more or less technical nature. Attention is given to illustration. Preparation of publicity matter is considered.

Elective; junior or senior year; third term; 3 credits; 3 lecture periods. Fee \$1.00. *F. L. Snow*

IJ 440. Editorial Writing. Materials, style, and arrangement of periodical editorials are considered. Training is given in writing editorials. Principles of policy and ethics are studied and applied. The make-up of the editorial page of farm and trade journals is given attention.

Prerequisite: IJ 320. Elective; senior year; first term; 3 credits; 3 lecture periods. Fee \$1.00. *C. J. McIntosh*

IJ 204, 314, 334. Journalism Practice I, II, and III. Laboratory practice for courses IJ 200, 310, 330, respectively. Opportunity is given to put the fundamental principles of journalism into practice. In IJ 204 and 314, "beats" are assigned and students receive practical experience in reporting. Special assignments are also given. Students are expected to write for publication. These courses offer students the advantages of training and experience in connection with instruction in corresponding courses.

Elective; 2 credits each. Fee \$1.00.

F. L. Snow

LIBRARY

LUCY MAY LEWIS, A.B., B.L.S., Librarian.
LILLIAN MABEL GEORGE, B.L.S., in charge Continuations Department.
ELIZABETH RITCHIE, A.B., B.L.S., Cataloguer.
BERTHA HERSE, B.S., in charge Circulation Department.
ELSIE LOUISE BAECHTOLD, A.B., B.L.S., Reference Librarian.
EDITH HAGUE, A.B., B.L.S., Continuations Assistant.
ETHEL ALLEN, B.S., Assistant.
ELLA MAY UTTERBACK, Assistant.
HELEN GARDNER, Assistant.

Equipment. The library is housed in a beautiful new building well adapted to library uses. The reading and general reference room is large and well-lighted, extending entirely across the building. It is supplied with about 600 leading magazines and newspapers. The books of the library consist of about 41,000 volumes of standard works of history, biography, engineering, agriculture, natural science, general literature and reference, about 3,000 reports and other publications from the agricultural colleges and experiment stations of all the states, with about 50,000 bulletins and pamphlets. The library is a designated depository of United States Government publications, of which it has about 7,000 volumes. Over 2,000 of these were received as a gift from the library of the late United States Senator Dolph.

Practical use of the books has led to the establishment of small laboratory collections kept in the rooms of the following departments: General Chemistry, Agricultural Chemistry, Animal Husbandry, Agronomy, Horticulture, Botany, Forestry, Bacteriology, Zoology, Pharmacy, Commerce, and Civil, Chemical, Mechanical, Electrical, and Mining Engineering. Each department library is in charge of the head of the department, to whom application must be made for use of the books.

All books are classified and catalogued according to the Dewey decimal system.

Books may be drawn for home use by all officers and students of the College. Books may be kept by the students for two weeks with the privilege of a renewal, and by officers for any reasonable time. Students desiring access to the shelves for special study must be recommended to the Librarian by the head of the department under whom they are studying.

The reference library in the reading room consists of encyclopedias, dictionaries, and standard reference books in the different departments of study. A collection of books for cultural reading is also kept in the reading room. In the same room, and accessible to all readers, is the card catalogue of the general library, including cards for books of the department libraries. The catalogue includes both authors and subjects under one alphabet on the dictionary plan; there is also in the reading room, a card catalogue of the publications of the United States Department of Agriculture, and a card index of the publications of the state experiment stations.

COURSE

Lib 100. Library Practice. This course teaches, by means of lectures and practical problems, the use of catalogues, indexes, and reference books, such as dictionaries, encyclopedias, atlases, handbooks of general information, handbooks of history, statistics, quotations, etc. It also teaches the use of periodical indexes for both general and technical periodicals.

Freshman year; 1 term; 1 credit; 1 lecture; 1 recitation; 1 one-hour laboratory period.

Lucy M. Lewis and Assistants

MILITARY SCIENCE AND TACTICS

- MAJOR JOSEPH KEPNER PARTELLO, Infantry, U. S. Army, Professor of Military Science and Tactics.
- MAJOR RALPH RIGBY GLASS, Infantry, U. S. Army, Assistant Professor of Military Science and Tactics.
- MAJOR WILLIAM FLETCHER SHARP, Field Artillery, U. S. Army, Assistant Professor of Military Science and Tactics; in charge Field Artillery Unit.
- MAJOR CUSHMAN HARTWELL, Cavalry, U. S. Army, Assistant Professor of Military Science and Tactics; in charge U. S. Cavalry Unit.
- MAJOR EDWARD CORNELIUS HANFORD, Field Artillery, U. S. Army, Assistant Professor of Military Science and Tactics.
- CAPTAIN ALBERT MONMOUTH JONES, Infantry, U. S. Army, Assistant Professor of Military Science and Tactics.
- CAPTAIN WILLSON YOUNG STAMPER, JR., Corps of Engineers, Assistant Professor of Military Science and Tactics; in charge Engineer Unit.
- FIRST LIEUTENANT LANGDON HULL SPOONER, Field Artillery (Motor Transport Corps), Assistant Professor of Military Science and Tactics; in charge Motor Transport Corps Unit.
- CAPTAIN DENIS HAYES, Adjutant General's Department, Officers' Reserve Corps, U. S. Army; Assistant to Professor of Military Science and Tactics; Assistant to Supply Officer; (Regimental Sergeant Major, U. S. Army, Retired).
- FIRST LIEUTENANT OTTO MOLLER, Engineer Officers' Reserve Corps, U. S. Army, Assistant to Professor of Military Science and Tactics; (Master Engineer Senior Grade, Corps of Engineers, U. S. Army).
- FIRST LIEUTENANT BURT ELMER WOODY, Infantry Officers' Reserve Corps, U. S. Army, Assistant to Professor of Military Science and Tactics; (First Sergeant Infantry, U. S. Army).
- REGIMENTAL SUPPLY SERGEANT FRANK GEORGE HUNTER, Infantry, Assistant to Professor of Military Science and Tactics.
- FIRST SERGEANT JOSEPH ETIENNE ROBERGE, Infantry, Assistant to Professor of Military Science and Tactics.
- FIRST SERGEANT ANTHONY FRANCIS SCHMITZ, Cavalry, Assistant to Professor of Military Science and Tactics.
- FIRST SERGEANT JOHN HARSCH, JR., Field Artillery, Assistant to Professor of Military Science and Tactics.

FIRST SERGEANT HERBERT SPEAR, Corps of Engineers, Assistant to Professor of Military Science and Tactics.

SERGEANT LEWIS ELLSWORTH, Infantry, Assistant to Professor of Military Science and Tactics.

SERGEANT ROBERT TOWNSEND, Infantry, Assistant to Professor of Military Science and Tactics.

SERGEANT JOHN HART, Field Artillery, Assistant to Professor of Military Science and Tactics.

SERGEANT BERNARD SWEET, Field Artillery, Assistant to Professor of Military Science and Tactics.

The Act of Congress establishing the Agricultural and Mechanical colleges was passed in the midst of the Civil War; it inaugurated the cadet corps and required military training of all able-bodied male students. The object of this requirement was to provide well-trained officers for citizen soldiers. The Act was supplemented on June 3, 1916, by another Act of Congress, passed in the midst of the World War, establishing the Reserve Officers Training Corps. The object of the Corps is "to qualify students, by systematic and standard training methods, to be commissioned in the Officers Reserve Corps so that in time of national emergency, trained men, graduates of the College, may lead the units of the large armies on which the safety of the country will depend."

A Distinguished Institution. By order of the War Department, as a result of comparative inspection, the Oregon Agricultural College has been designated a Distinguished Institution in respect to its military training. This distinction places it in the class with such institutions as Harvard and Yale, and the great land-grant colleges such as the universities of Illinois, Wisconsin, Minnesota, and California.

R. O. T. C. Basic and Advanced Courses. In the fall of 1917 the War Department established at the Oregon Agricultural College both a Basic Course and an Advanced Course, Senior Division in the Reserve Officers' Training Corps. The Basic Course covers the first two years of the college military training, enrolling physically fit men of the freshman and sophomore years except those who may be excused for cause by the College authorities. The Advanced Course comprises the third and fourth years of college military training, enrolling those men who have completed the Basic Course and who have shown proper interest and aptitude for the

training and who are specially selected for further training in advanced work. Once enrolled in the Advanced Course, students are required to continue same throughout the remaining period of their undergraduate course. This obligation does not prevent them from severing their connection with the College, however, if their interests or desires prompt them to leave the institution either temporarily or permanently.

Five Branches of Training. Five branches of military training are offered to qualified students of the R. O. T. C. at the College: an Infantry Unit, a Field Artillery Unit, an Engineering Unit, a Motor Transport Corps Unit, and a Cavalry Unit. In addition an excellent R. O. T. C. cadet band affords instruction in band practice. These several branches of training are each carried through four years of the college course and are open to all students of the College qualified to undertake them. In so far as is possible students are permitted to elect the particular branch of training they desire to take up. This election of branches must conform, however, to percentage membership limitations for different units imposed by the War Department. The training in all units corresponds to that for like units in the regular Army.

Uniforms Provided by the Government. All members of R. O. T. C. Units at this institution are provided by the United States Government with complete military uniforms including coat, breeches, service hat, leggins, shoes, flannel shirt, belt, and hat cord. These articles are issued to students free of charge and must be returned at the end of the college year or whenever a student severs his connection with the Military department of the College. To protect the College against financial loss from failure to return uniforms, a deposit in a sum to be determined will be required from each student enrolled in the R. O. T. C., this deposit to be returned to the student when uniform and equipment are returned to the Military department.

Commutation of Subsistence. Selected members of the Advanced Course (junior and senior years) of the R. O. T. C. who sign a special contract agreeing to certain conditions, including attendance at summer camps, are paid a cash commutation of subsistence (board) by the National Government at the rate of \$12.00 a month throughout their entire two remaining academic years, including the vacation period between these years, while they are pursuing the Advanced Course. Any time spent in summer camps is deducted from this period.

Benefits to Students Enrolling in the R. O. T. C. It may thus be seen that a student enrolling as a member of the R. O. T. C.

derives considerable benefit from the United States Government as an inducement for continuing the four-year military training with a view to his being commissioned in the Officers' Reserve Corps of the United States Army on the completion of his regular college course. He not only has the free issue of uniforms for his use in connection with his military duties but also can receive in cash a sum totaling approximately \$250.00 if he signs the written agreement referred to above; this money is paid quarterly in cash at the College and is of considerable help to those students working their way through college. He also has the free use of the very latest model arms and equipment of every kind. Whether or not he actually accepts a commission in the Reserve Corps upon the completion of the four-year course, he nevertheless has received an excellent military education which should in large part fit him for his future duties as a citizen of the Nation and of the State.

Summer Training Camps. The summer training camps, which are held all over the United States, are designed to bring together, for a six-week course of intensive training in the field, the R. O. T. C. units of the different colleges of the country. Students of the Infantry Unit report to Camp Kearney, San Diego, California; those of the Field Artillery Unit to Camp Knox, Kentucky; the Engineer Unit to Camp Humphreys, Virginia; the Motor Transport Corps Unit to Camp Holabird, Maryland; and the Cavalry Unit to Fort Oglethorpe, Georgia. Members of the Basic Course of each unit should attend one summer camp. Members of the Advanced Course are required to attend the advanced camp held between the junior and senior years. Every student who completes the full four-year course of training should therefore have attended at least two summer camps. This will insure his receiving a commission in the Officers' Reserve Corps of the United States Army upon graduation, provided he is otherwise qualified. Students incur no expense in attending these military camps, as the United States Government pays all traveling expenses to and from the camp and also living expenses including board, lodging, clothing, and equipment while at the camp. Excellent facilities exist at each camp for adequate recreation and wholesome diversion.

Requirements. Four hours of military instruction each week are required for all men students in the two years of the Basic Course and five hours each week in the two years of the Advanced Course. The wearing of the military uniform is required during hours set apart for military instruction. All members of the Military department are required to protect from loss or damage the clothing, arms,

and equipment issued to them by the United States Government through the Military department of the College.

Military Credits for Graduation. A minimum of twelve credits in military training are required of all men students for graduation. This involves the usual three credits for each of the first two years and the six credits of the third year. Six additional credits in the senior year also count as credits for graduation, making a total of eighteen military credits thus available for graduation. The fact that a student has accumulated twelve credits is not in itself reason for claiming exemption from further military training.

Adjustment of Credits. Students transferring to the Oregon Agricultural College with advanced credits from other educational institutions of equal rank will not be exempt from the military requirement but will be required to offer an equivalent of credits for the back military credits represented and accumulated. Students presenting credentials for military work taken at other educational institutions or for service in the U. S. Army, Navy, or Marine Corps may be given credit for such work in so far as it is deemed equivalent to the requirements of this institution. If for any reason a student is relieved from the military requirements, other credits must be substituted for the military credits.

Cadet Officers. The cadet officers and non-commissioned officers are selected at the beginning of each college year by the Commandant with the approval of the President of the College. Their appointment and promotion, together with their relative rank and standard in each grade, are determined on a basis of individual efficiency and merit. Cadet commissioned officers are selected from the senior class, sergeants and higher non-commissioned officers from the junior class, and corporals from the sophomore class. The traditions of the College have made it a high honor to stand well in the Military department and the student commanders of the different R. O. T. C. units have invariably been men of superior attainments and character.

Equipment. The Military department has a thoroughly modern and up-to-date equipment for its work, furnished by the National Government and valued considerably in excess of half a million dollars. The Armory is one of the largest and finest in the country and affords ample space for the military staff, arms rooms, assembly hall, and for military instruction in rainy weather. The War Department has detailed to the College, nine Army officers of the regular service, twelve non-commissioned officers, and approximately forty privates. In addition, ninety artillery and cavalry horses and four mules are supplied; together with motor transportation; Field

Artillery big guns; motorized repair shop; ammunition wagon; Infantry, Field Artillery, Engineering, Motor Transport, and Cavalry equipment.

The Infantry equipment comprises new and latest pattern Springfield rifles, twelve hundred in number; twelve hundred Infantry field packs and equipment complete; four Browning machine guns; four Browning automatic rifles; one Stoke's mortar; one 37-mm. gun with all related equipment; hand and rifle grenades for instruction purposes; automatic caliber .45 pistols; twelve hundred shelter tents; approximately 100,000 rounds of rifle ammunition, together with a generous allowance of gallery, blank, pistol and dummy ammunition supplied for instruction in rifle firing. No charge is made for ammunition or other military supplies used by students. A modern up-to-date target range is available for target practice for all members of the R. O. T. C.

The Field Artillery Unit has a five-section battery of American three-inch guns complete. It also has one 155-mm. G. P. F. rifle, one 155-mm. howitzer Schneider, one 4.7-inch rifle, and one French, one British, and one American 75-mm. gun. For transport, there are provided ninety horses, draft and riding; four mules, draft. Complete artillery harness for Artillery gun carriages, two 5-ton caterpillar tractors, two motorcycles with side cars, two F. W. D. ammunition trucks, one White reconnaissance car, one Dodge five-passenger car, one Artillery repair truck with tools valued at \$20,000.00, lathes, generators, welding outfits, etc. Besides these there are fire control instruments, radio, telephones, range finders and every device furnished and developed for Field Artillery during the World War.

The Engineer Unit equipment includes eight transits, eight levels, four plane tables, sixteen Philadelphia rods, twenty-four stadia boards, hand levels, compasses, sliding rules, steel tapes, and ninety-six sets complete of standard sketching equipment for the making of military maps. It has also several sets of models illustrating various features of military engineering operations, such as pontoon bridges, barbed-wire entanglements, dugouts, relief of a completely fortified position, etc. Complete sets of maps for the solution of map reading and minor tactical problems are available.

The Motor Transport Corps Unit has complete modern equipment for instruction in elementary automotive engineering, field operations, convoy practice, and shop work. The members of this unit are armed with the new Army Springfield rifle and in addition are taught the use of the motor equipment supplied. This equipment is as follows: one Cadillac touring car; one Dodge touring car;

one Harley Davidson motorcycle (side car) ; one Indian motorcycle (solo) ; one Mack truck ; three class "B" trucks ; one Riker truck ; two G. M. C. trucks ; two Dodge light repair trucks ; and one White truck.

The Cavalry Unit uses the Government horses on hand jointly with the Field Artillery Unit. Seventy-four sets of the new regulation cavalry equipment of the latest army pattern are available. This equipment includes McClellan saddles, saddle blankets, saddle pockets, bit and bridoon bridles, halters, etc. The members of this unit are equipped with latest pattern Springfield rifles, caliber .45, automatic pistols, and latest model cavalry sabers.

Military Fraternity. A chapter of the national military fraternity, "Scabbard and Blade," was installed on the campus during the spring of 1920. Membership is limited to those members of the Military department who have exhibited particular qualities of excellence in manhood, scholarship, military attainment, and academic standing, and in the prerequisites of a gentleman and of a patriotic citizen.

COURSES

MS 111, 112, 113. **Infantry.** First year Basic Course.

Freshman year ; three terms ; 1 credit each term ; 4 hours a week.

MS 211, 212, 213. **Infantry.** Second year Basic Course.

Sophomore year ; three terms ; 1 credit each term ; 4 hours a week.

MS 311, 312, 313. **Infantry.** First year Advanced Course.

Junior year ; three terms ; 2 credits each term ; 5 hours a week.

MS 411, 412, 413. **Infantry.** Second year Advanced Course.

Senior year ; three terms ; 2 credits each term ; 5 hours a week.

MS 121, 122, 123. **Field Artillery.** First year Basic Course.

Freshman year ; three terms ; 1 credit each term ; 4 hours a week.

MS 221, 222, 223. **Field Artillery.** Second year Basic Course.

Sophomore year ; three terms ; 1 credit each term ; 4 hours a week.

MS 321, 322, 323. **Field Artillery.** First year Advanced Course.

Junior year ; three terms ; 2 credits each term ; 5 hours a week.

MS 421, 422, 423. **Field Artillery.** Second year Advanced Course.

Senior year ; three terms ; 2 credits each term ; 5 hours a week.

MS 131, 132, 133. **Motor Transport Corps.** First year Basic Course.

Freshman year ; three terms ; 1 credit each term ; 4 hours a week.

MS 231, 232, 233. **Motor Transport Corps.** Second year Basic Course.

Sophomore year ; three terms ; 1 credit each term ; 4 hours a week.

MS 331, 332, 333. **Motor Transport Corps.** First year Advanced Course.

Junior year ; three terms ; 2 credits each term ; 5 hours a week.

MS 431, 432, 433. **Motor Transport Corps.** Second year Advanced Course.

Senior year ; three terms ; 2 credits each term ; 5 hours a week.

MS 141, 142, 143. **Engineer Corps.** First year Basic Course.

Freshman year ; three terms ; 1 credit each term ; 4 hours a week.

MS 241, 242, 243. **Engineer Corps.** Second year Basic Course.

Sophomore year ; three terms ; 1 credit each term ; 4 hours a week.

MS 341, 342, 343. **Engineer Corps.** First year Advanced Course.

Junior year ; three terms ; 2 credits each term ; 5 hours a week.

MS 441, 442, 443. **Engineer Corps.** Second year Advanced Course.

Senior year ; three terms ; 2 credits each term ; 5 hours a week.

MS 151, 152, 153. **Cavalry.** First year Basic Course.

Freshman year ; three terms ; 1 credit each term ; 4 hours a week.

MS 251, 252, 253. **Cavalry.** Second year Basic Course.

Sophomore year ; three terms ; 1 credit each term ; 4 hours a week.

MS 351, 352, 353. **Cavalry.** First year Advanced Course.

Junior year ; three terms ; 2 credits each term ; 5 hours a week.

MS 451, 452, 453. **Cavalry.** Second year Advanced Course.

Senior year ; three terms ; 2 credits each term ; 5 hours a week.

PHYSICAL EDUCATION FOR MEN

RICHARD BURR RUTHERFORD, A.B., Professor and Director.

JAMES GEORGE ARBUTHNOT, B.S., Professor.

RALPH COLEMAN, B.S., Instructor.

Because physical health determines capacity for efficiently carrying out the work which a student prepares for in college, Physical Education in modern educational institutions is being emphasized more and more every year.

Physical Education for Men in the Oregon Agricultural College includes the following subjects: (1) Gymnastics, Individual and Class Instruction; (2) Athletics, Intercollegiate and Intramural; (3) Physical Examinations; (4) Corrective Exercises; (5) Hygiene; (6) Physical-Training subjects not classified; (7) Teachers' Courses in Physical Education.

Individual Instruction. This is given in the form of advice based upon the health examination of the student. Health examinations are given during the freshman and sophomore years. The examinations are utilized for the purpose of finding defects whose proper treatment may add to the health efficiency of the student. Advice given at this time is recorded and when a student reports for conference the advice on file is followed up. Students found with remediable physical defects are given special corrective work.

Physical Training. Students may devote themselves to any one of the three following phases of physical training: intercollegiate athletics, intramural athletics, and gymnasium.

Intercollegiate Athletics. All intercollegiate athletics is under the jurisdiction of the Board of Control, composed of three members of the faculty, five members of the student body, and one alumnus. Representative teams are organized for baseball, basket-ball, cross-country running, football, soccer, tennis, track, and wrestling. Participation during the whole season of sport is accepted for one semester credit in Physical Education.

Intramural Athletics. The work in intramural athletics is supervised by a council consisting of the Director of Physical Education, Colonel of the Cadet Regiments, President of the Student Body, Editor of the O. A. C. Barometer, Professor of Intercollegiate Athletics, and a representative elected by each of the following groups: Fraternities, Clubs, and Independents.

The department has organized the work in intramural athletics so that every student who is physically fit to take part in athletic

contests has the opportunity to participate in scheduled competitive sports. "Every O. A. C. man an athlete" is the slogan of the College.

For credit, attendance of two hours each week is required of all freshmen and sophomores who elect this work. The activities include: **fall sports** (football, soccer, cross-country running, field events, swimming, tennis, indoor baseball); **winter sports** (basketball, track and field events, wrestling, boxing, hand ball, volley ball, swimming, and advanced gymnastics); **spring sports** (baseball, track and field events, tennis, swimming, and cross-country running).

Gymnasium Classes. Individual and class instruction. Students who are unsuited (determined by examination and tests) or who do not desire to work in intercollegiate or intramural athletics are assigned to gymnasium classes, in which the students are given work for correcting defects, and for developing physical efficiency and muscular power.

Attendance of two hours each week is required of all freshmen and sophomores carrying gymnasium work.

Teachers' Courses in Physical Education. The Oregon law requiring physical education in all public schools went into effect September 1, 1919. This law has created a demand for training in physical education on the part of teachers in both elementary and high schools. Many teachers of the vocations are able to render competent service in giving instruction in physical education in addition to their regular work. Community leaders everywhere require training for leadership in recreation and physical education. Students of the College who plan to teach after graduation will find distinct professional advantage in the training included, not only in the required Physical Education work, but also in many of the elective courses.

Summary of Oregon Physical Education Law. The new law requiring physical education in the public schools of Oregon provides for a minimum of one hundred minutes a week, or an average of twenty minutes daily, for physical training activities in elementary schools. The State Superintendent of Public Instruction has published a special syllabus prepared by a committee of experts, giving the requirements of the law. The law requires the work to consist of activities promoting physical vigor, physical posture, bearing, and mental and physical alertness, self control, disciplined initiative, sense of patriotic duty, and spirit of cooperation under leadership.

Equipment. The new Men's Gymnasium, two units of which have been completed, is equipped with all modern gymnastic appa-

ratus and facilities for properly carrying on the work in physical education and recreation. The main floor, 90x150 feet in dimensions, furnishes ample space for the most efficient type of gymnasium and indoor athletic work. Features of the new gymnasium are: the large floor space providing for three regulation basket-ball courts, the large lobby for receptions, locker rooms and lockers to accommodate the men students, shower baths and dressing rooms, rooms for accommodating the varsity teams. The new east wing provides an auxiliary gymnasium for apparatus work, three hand-ball courts, two wrestling and boxing rooms, and one large room for volley ball.

The O. A. C. field for athletics comprises a new quarter-mile track, varsity football field with bleachers for seating eight thousand spectators, one varsity baseball field, and six football, soccer, and baseball fields for intramural athletics.

Eight tennis courts have been constructed which afford facilities for tennis.

The Armory, one of the largest of its kind in the United States, provides fine facilities for winter training during inclement weather in football, track, baseball, and various other sports. An indoor clay track, banked at the turns, which is but eight laps to the mile, and the extension clay floor space and high dome roof furnish facilities for conducting large winter track and field meets.

The Treasurer's receipt for the \$1.00 gymnasium fee each term entitles the holder to full privileges of the department, including: health examination, strength tests, locker, use of shower rooms, towels and soap, athletic fields, gymnasiums, etc.

COLLEGIATE COURSES

PEm 111, 112, 113. **Physical Training.**

Required in all degree curricula; freshman year; three terms; $\frac{1}{2}$ credit each term; 2 periods.

PEm 121, 122, 123. **Hygiene.** These courses consist of a series of lectures on personal and impersonal hygiene, sources and modes of infectious diseases, immunity, industrial and occupational diseases, and the like. One term required of all freshmen and first year vocational students. No credit toward graduation is given for these courses.

PEm 141. **Red Cross Certificate in First Aid to the Injured (for men.)**

Elective; first term; 1 credit; 1 lecture.

PEm 211, 212, 213. **Physical Training.**

Required in all degree curricula; sophomore year; three terms; $\frac{1}{2}$ credit each term; 2 periods.

PEm 231. **Elementary and Advanced Gymnastics.** Theory and practice of gymnastics.

Elective; second or third term; 1 credit; 2 periods.

PEm 232, 233. **Methods of Coaching Athletic Teams.** Football, basket-ball, track, baseball, wrestling, swimming, and soccer.

Sophomore year; second and third terms; 2 credits each term; 2 lectures.

PEm 241. **Physical Department Methods and Physical Diagnosis.** Physical examinations; detection of abnormal health conditions.

Prerequisite: PEm 111, 112, 113, 123. Elective; first or second term; sophomore year; 2 credits; 2 lectures.

PEm 244. **Kinesiology.** Essentials of anatomy as related to physical education; muscles and their action; analysis of the movements of the body and their mechanisms as a working basis for the selection of gymnastic exercises; lectures and demonstrations on skeleton and human body.

Prerequisite: A course in Anatomy. Sophomore year; second term; 2 credits; 2 lectures.

PEm 274. **Community Recreation.** A course designed to prepare for leadership in recreational activities.

Elective; first term; 2 credits; 2 periods.

PEm 311, 312, 313. **Physical Training.**

Elective in degree curricula; junior year; three terms; $\frac{1}{2}$ credit each term; 2 periods.

PEm 341. **Physio-therapy.** Elements of corrective exercises; methods and exercises used for corrective and therapeutic purposes. Types of variations from the normal, and the effect of corrective exercises.

Elective; second term; 2 credits; 2 periods.

PEm 361. **Practice Teaching.** Students work under supervision as assistants in various courses. Conferences are held by the instructors in charge, and students submit reports.

Elective; junior year; any term; 2 credits; 3 periods.

PEm 411, 412, 413. **Physical Training.**

Elective in degree curricula; senior year; 3 terms; 1 or 2 periods.

VOCATIONAL COURSES

PEm 11, 12, 13. **Practical Gymnastics.**

Required of men in vocational curricula; first year; 3 terms; $\frac{1}{2}$ credit each term.

PEm 21, 22, 23. **Practical Gymnastics.**

Prerequisites: PEm 11, 12, 13, or equivalent. Required of men in vocational curricula; second year; 3 terms; $\frac{1}{2}$ credit each term.

PHYSICAL EDUCATION FOR WOMEN

EDNA AGNES COCKS, A.M., Professor and Director.

MARY ISABELLE BOVEE, Instructor.

RUTH WININGER, A.B., Instructor.

LOIS RANKIN, A. B., Instructor.

The aim of this department is to bring each student to her best possible physical condition, and by careful training to correct faulty posture, to aid in the formation of habits of hygienic living, to establish a normal condition in the circulatory and respiratory systems, to secure bodily vigor, and to attain a healthy and symmetrical development.

Special Corrective and Medical Gymnastics. Students who are shown by physical examination to be unfit for the work of the regular classes in gymnastics and sports, are assigned to corrective classes where the **work** is light and emphasis is laid on correct breathing and posture, relaxation, and rest; or, whenever necessary, students are given private work in medical gymnastics according to individual needs. The physical condition of each student is carefully diagnosed and supervised. The instructors encourage conferences concerning matters of health and personal hygiene and co-operate with the resident physician in all cases.

Courses for Students Preparing to Teach. Many teachers of Home Economics, Agriculture, Manual Training, and Commerce in elementary and high schools are expected also to give instruction in Physical Education, and all teachers who are trained in this field are able to render valuable service in the schools and communities where they work. A brief summary of the Oregon law requiring physical education in all public schools of the State is given on page 361. Prospective teachers of the vocations, extension workers, and community leaders will find the required and elective courses in Physical Education valuable as part of their professional equipment.

Requirements. Work in Physical Education is required of all freshmen and sophomores four periods a week, and of all juniors and seniors two periods a week, unless deferment has been granted by the director or unless excuse is given for physical reasons.

Examinations. All students are required to take a medical examination by the College Physician, and a physical examination by the Director of Physical Education for Women.

Uniforms. The gymnasium uniform consists of an all-black suit, black hose, and black gymnasium shoes. The shoes can be purchased in Corvallis, but the suits must be ordered at the gymnasium office at the time of registration. The uniforms for out-of-doors consist of a short, full, white wash skirt, white middie, and sport shoes or tennis shoes. Ballet shoes are used in the aesthetic dancing classes.

Fee. A gymnasium fee of \$1.00 a term is charged for use of bath, lockers, towels, medical supplies for injuries, etc.

Equipment. The Women's Gymnasium has floor space for regular gymnasium work, a balcony running-track and playing space for basket-ball and other games. On the main floor are found horizontal bars, vaulting horses and bucks, parallel bars, swinging rings, traveling rings, Swedish box, stall bars, climbing ropes, ladders, dumb bells, Indian clubs, and wands. There are lockers and dressing rooms for all needs, and shower-bath rooms where hot and cold water is available throughout the year. The women's athletic field provides for such games as basket-ball, field hockey, soccer, tennis, baseball, and crossball. The swimming pool in Shepard Hall is under the direction of the department of Physical Education for Women and is supervised by an instructor.

COLLEGIATE COURSES

PEw 111, 112, 113. **Practical Gymnastics.** Swedish gymnastics, combining floor and apparatus work with training in correct posture and breathing. Required of all freshmen in degree curricula; the other two required hours may be selected from elective courses.

Required of all women in degree curricula; freshman year; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Isabelle Bovee

PEw 114, 115, 116. **Corrective Gymnastics.** Gymnastic work adapted to the needs of women not suited to the regular gymnasium work.

Required of women in degree curricula not taking PEw 111, 112, 113; freshman year; three terms; $\frac{1}{2}$ credit each term; 2

Edna A. Cocks, Isabelle Bovee

PEw 121, 122. **Hygiene.** Lectures covering the more important aspects of personal and social hygiene, including the hygiene of the skin, hair, teeth, nails; care of the eyes; hygiene of the nervous system; vital organs; dress; friendship and ethical hygiene; supplemented by outside reading and an occasional report.

Required of all women in degree curricula (freshman year), all women in vocational curricula, and all optional and special women students; first and second terms; 1 credit each term; 2 periods.

Mary E. Fawcett

PEW 123. **Sanitary Science.** Public and private sanitation as related to infections, diseases, care of foods, water supply, and sewage; care of public and private buildings; general health supervision.

Required of all women in degree curricula (freshman year), all women in vocational curricula (first year), and all optional and special women students; third term; 1 credit; 2 periods.

Edna A. Cocks

PEW 131, 132, 133. **Dancing.** (a) Elementary Aesthetic Dancing. Aesthetic technique and practice of rhythmic movements; simple aesthetic dances, based on both the Chalif and Russian methods. (b) Elementary Folk Dancing. The simple national folk dances of all nations.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

PEW 134, 135, 136. **Gymnastic Dancing.** Steps progressing from the simple to complex movements.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

PEW 137, 138, 139. **Apparatus Work.** This course consists of work with both light and heavy apparatus, such as rings, ladders, stall bars, vaulting box, and mats.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Isabelle Bovee

PEW 141, 142, 143. **Elementary Outdoor Sports.** (a) Tennis. (b) Hockey. (c) Basket-ball. (d) Baseball. (e) Soccer. (f) Cricket. (g) Track Athletics. The work includes various sports to give recreation and to form a basis for the habit of open-air work.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Ruth Wininger

PEW 151, 152, 153. **Elementary Swimming.** A course in which the students are helped to overcome timidity of being in the water and are taught the ordinary back stroke, side stroke, and simple diving.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Ruth Wininger

PEW 211, 212, 213. **Practical Gymnastics.** A continuation of PEW 111, 112, 113. These courses are required; the other two required hours may be selected from the elective courses.

Required of all women in degree curricula; sophomore year; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Isabelle Bovee

PEw 214, 215, 216. **Corrective Gymnastics.** A continuation of PEw 114, 115, 116.

Required of women in degree curricula not taking PEw 211, 212, 213; sophomore year; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Edna A. Cocks, Isabelle Bovee

PEw 231, 232, 233. **Dancing.** (a) Intermediate Aesthetic Dancing. (b) Intermediate Folk Dancing. A continuation of courses PEw 131, 132, 133.

Elective; three terms; 1 credit each term; 2 periods.

PEw 237. **Hand Apparatus.** Work with Indian clubs, dumb bells, wands, balls, and reeds.

Elective; first term; $\frac{1}{2}$ credit; 2 periods. *Edna A. Cocks*

PEw 238. **Fencing.** Includes individual and class instruction in foil and saber fencing; methods of single and double rank formations; salutes and fencing bouts.

Elective; second term; $\frac{1}{2}$ credit; 2 periods. *Isabelle Bovee*

PEw 239. **Archery.** A course in the principles and fundamentals of archery.

Elective; third term; $\frac{1}{2}$ credit; 2 periods. *Isabelle Bovee*

PEw 241, 242, 243. **Advanced Outdoor Sports.** (a) Tennis. (b) Hockey. (c) Basket-ball. (d) Baseball. (e) Soccer. (f) Cricket. (g) Track Athletics. A continuation of courses PEw 141, 142, 143.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Ruth Wininger

PEw 251, 252, 253. **Advanced Swimming.** A continuation of PEw 151, 152, 153, adding more intricate strokes, fancy diving, ornamental swimming, and life-saving.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Ruth Wininger

PEw 311, 312, 313. **Advanced Gymnastics.** A more advanced course in general gymnastics for students who have completed courses PEw 111, 112, 113 and PEw 211, 212, 213.

Three terms; $\frac{1}{2}$ credit each term; 2 periods. *Isabelle Bovee*

PEw 331, 332, 333. **Dancing.** (a) Advanced Aesthetic Dancing. (b) Advanced Folk Dancing. A continuation of courses PEw 131, 132, 133 and 231, 232, 233.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

PEW 245. **First Aid to the Injured.** This course covers emergency treatments of wounds, shocks, fainting, hemorrhage, burns, sun-stroke, sprains, fractures, and poisons; the use of bandages; care of the wounded.

Elective; second term; 2 credits; 2 periods.

PEW 344, 345. **Kinesiology.** A study of the anatomy of the motor organs with special reference to joint and muscular mechanism; the relation of various sets of movements to muscular development.

Prerequisite: Anatomy and Physiology. Elective; first and second terms; 3 credits each term; 3 periods. *Edna A. Cocks*

PEW 346. **Physiology of Exercise.** A study of the effect of exercise on health, considering heat, fatigue, exhaustion, overwork, breathlessness and amount of training.

Elective; third term; 3 credits; 3 periods. *Edna A. Cocks*

PEW 375. **Playground and Gymnastic Games.** A study and analysis of games for the playground and gymnasium; lectures on the theory of games; reference reading and reports; practical working of games.

Elective; second term; 3 credits; 3 periods. *Ruth Wininger*

PEW 376. **Theory and Coaching of Athletic Sports.** This course covers the theory and coaching of all organized sports and track athletics, including lectures, reference reading, and the handling of squads and teams.

Elective; third term; 3 credits; 3 periods. *Ruth Wininger*

PEW 423. **Advanced Hygiene and Sanitary Science.** This course takes up the vital points in hygiene and sanitation and includes the theory of teaching the subject in the elementary and the high schools.

Elective; third term; 2 credits; 2 periods. *Edna A. Cocks*

PEW 431. **History of Physical Education.** A course covering the origin and development of physical education including its leading educators.

Elective; first term; 3 credits; 3 periods. *Edna A. Cocks*

PEW 441. **Massage.** Theory and practice of body massage, including treatment for conditions arising from athletic strain.

Prerequisites: Anatomy and Kinesiology. Elective; first term; 3 credits; 3 periods. *Isabelle Bovee*

PEW 442. **Therapeutic Gymnastics.** Corrective gymnastics as applied to abnormal health conditions; prescription of exercises; medical gymnastics.

Prerequisites: Anatomy and Kinesiology. Elective; second term; 3 credits; 3 periods. *Isabelle Bovee*

PEW 443. **Physical Diagnosis and Anthropometry.** Theory and practice in detecting normal and abnormal physical signs; history; laws of human proportion; measurements; practice in taking and recording measurements; practice in school clinic.

Prerequisites: Anatomy and Kinesiology. Elective; third term; 3 credits; 3 periods. *Isabelle Bovee*

PEW 451, 452, 453. **Physical Education Seminar.** An advanced course for students taking special work in physical education. Discussions of vital problems in physical education; reviews and reports of books and magazine articles. Each student is required to write a term thesis.

Elective; three terms; 1 credit each term; 1 period.

Edna A. Cocks

PEW 461, 462, 463. **Principles and Theory of Physical Education.** This course takes up the organization, leadership, and administration of physical training; preparation for teaching Physical Education; the theory of handling classes; reference reading.

Elective; three terms; 3 credits each term; 3 periods.

Edna A. Cocks

PEW 464, 465, 466. **Practice Teaching.** The course consists in the actual handling of classes, using the fundamentals and methods of the course in Principles and Theory of Physical Education (PEW 461, 462, 463) with lesson plans. These courses must be taken together.

Elective; three terms; 1 credit each term; 3 periods.

Edna A. Cocks

PEW 471. **Theory of Play.** A study of the nature of the child; the nature and function of play; the value of play; aims and spirit in the conduct of play.

Elective; first term; 3 credits; 3 periods.

Isabelle Bovee

PEW 472. **Organization and Administration of Physical Education and Recreation.** Development, organization, and management of Physical Education; the playground movement; construction and equipment; use of apparatus; government and discipline.

Elective; second term; 3 credits; 3 periods.

Edna A. Cocks

VOCATIONAL COURSES

PEw 11, 12, 13. **Practical Gymnastics.** Swedish gymnastics; floor and apparatus work; breathing and posture training.

Required of women in vocational curricula; first year; three terms; $\frac{1}{2}$ credit each term; 2 hours a week. The other two hours a week required the student may elect from the list given under Electives.

Isabelle Bovee

PEw 21, 22, 23. **Practical Gymnastics.** Continuation of the work of PEw 11, 12, 13.

Required of women in vocational curricula; second year; three terms; $\frac{1}{2}$ credit each term. The other two hours a week required the student may elect from list given under Electives.

Isabelle Bovee

SCHOOL OF MUSIC

WILLIAM JASPER KERR, D.Sc., President of the College.

WILLIAM FREDERIC GASKINS, Mus.B., Director of the School of Music; Professor of Music.

Graduate student Hillsdale College Conservatory; graduate student American Conservatory; graduate student of Karlton Hackett, Chicago; J. D. Mehan, New York; F. X. Arens, New York; Percy Rector Stephens, New York

GENEVIEVE BAUM-GASKINS, Instructor in Organ, Pianoforte, and Voice.

Leschetizky Method. The Dunning System for Beginners. Graduate of American Conservatory, Chicago; student of William Nelson Burritt, New York; Karlton Hackett, Chicago; John Dennis Mehan, New York; John J. Hattstaedt, Chicago; and Wilhelm Mittelschulte, Chicago.

GUSTAV DUNKELBERGER, Mus.B., Instructor in Pianoforte and Theory of Music.

Graduate of Bethel College Conservatory; graduate student American Conservatory, Chicago, and Institute of Musical Art, New York; pianoforte pupil of Heniot Levy, and Richard Buhlig—a pupil of Leschetizky; ensemble under Adolf Weidig, Chicago; theory pupil of Arthur Olaf Andersen—a pupil of d'Indy and Sgambati; theory pupil of Dr. Percy Goetschius, and Louis Victor Saar—a pupil of Rheinberger and Brahms.

RUTH RONDEAU, Assistant Instructor in Pianoforte.

Graduate Oregon Agricultural School of Music; graduate student of Calvin Cady, Columbia University; graduate student of Lhevinne, American Conservatory, Chicago. Specialist in the Progressive Series.

CARL GRISSIN, Instructor in String Instruments and Orchestration.

Student of Edmund Singer, Stuttgart; Gustav Hollaender, Berlin; Carl Halir, Berlin; Samuel de Lange, Berlin; Joseph Mayer, Berlin.

HARRY LYNDEN BEARD, B.S., Instructor in Band Instruments and Band Conducting.

Student of Herbert L. Clark, of Sousa's Band; Frank X. Heric, of New York; Herman Trutner, U. S. Army; Glen Wood, Oakland, Cal.; Paul Steindorff, San Francisco; Adolph Rosenbecker, and Daniel Protheroe, Chicago; A. F. Welden, Chicago.

GENERAL STATEMENT

Recognizing the value of musical education and experience to the college community, the Board of Regents in 1908 authorized the organization and establishment of the School of Music, providing ample room, instruments, and other necessary facilities for instruction of the highest standard of efficiency.

Individual and class instruction involve the payment by students of tuition in accordance with an authorized schedule. The School of Music is thus a self-supporting department of the Oregon Agricultural College.

Members of the faculty of the School of Music give gratuitous instruction to certain student musical organizations of the College. In this manner and through other College functions, the School of Music contributes in a large way to the educational, artistic, and social life of the institution.

MUSICAL ORGANIZATIONS AND CONCERTS

The musical organizations of the College include two College bands; the O. A. C. Orchestra; the Glee Club, composed of men students; and the Madrigal Club, a choral society composed of women students. The instruction in these organizations is given by the faculty of the School of Music.

Concerts. In addition to the public recitals of the students of the School of Music, which are given periodically throughout the college year, the annual concerts of the various student musical clubs are among the bright spots in the student calendar. The Glee and Madrigal concerts are artistic social events of the first magnitude. The Orchestra and Band concerts are occasions that bring out the largest and most enthusiastic audiences of the year. Every two years the Glee and Madrigal clubs, assisted by the College Orchestra, produce a classic light opera. The *Mikado*, The *Bohemian Girl*, The *Lass of Limerick Town*, and The *Pirates of Penzance* were charming examples of amateur performance.

Coupled with such services to the College community as these is the effort of the Director of the School of Music to bring to the College some of the celebrated musical artists of the country, whose concerts have been events of real moment in the aesthetic life of the students.

Courses. Work is offered in the following subjects: elements of music; history of music; interpretation; languages; music form and analysis; music pedagogics; song, oratorio, opera, and choral singing; organ playing, organ structure; piano playing, piano structure; sight reading; stage deportment; string instrument, wind instrument, and brass instrument playing; theory; harmony; counterpoint; composition; voice culture.

HARMONY AND THEORY

Mus 101. **Harmony.** Consideration of the theories of acoustics, the formation of the diatonic scale, intervals, chord construction, the relative importance of triads within one key, connection of primary triads, rhythm, the elements of melodic construction, and part writing; harmonization of melodies and unfigured basses; original

phrases and periods. Aural recognition of intervals demonstrated orally and in writing. Simple melodic dictation in both modes.

Required in all major courses in music; elective to others; freshman year; three terms; 2 recitations.

Mus 102. **Harmony.** Key relations; chord of the seventh; direct and extraneous modulation; altered and mixed chords. Ear-training exercises containing the more difficult diatonic and chromatic skips and difficult rhythms.

Prerequisite: Mus 101. Sophomore year; three terms; 2 recitations.

Mus 103. **Harmony.** Modulations; inharmonic tones; study of the various modern harmonic theories; original exercises. Harmonic dictation including primary and secondary triads, dominant discords and their inversions.

Prerequisite: Mus 102. Junior year; 3 terms; 2 recitations.

Mus 104. **Elementary Counterpoint.** Simple counterpoint in the five orders applied in original exercises and the small invention for two, three, and more parts.

Prerequisite: Mus 101 or equivalent. Sophomore or junior year; three terms; 2 recitations.

Mus 105. **Analysis.** Detailed harmonic and formal analysis of representative works of the masters and other compositions; development of analytic memory.

Prerequisite: Mus 103 or equivalent. Parallel with Mus 106. Senior year; three terms; 2 recitations.

Mus 106. **Composition.** The application of harmonic material in original exercises in the homophonic forms, from the simple phrase to the song form with trio.

Prerequisite: Mus 103 or equivalent. Senior year; three terms; 2 recitations.

Mus 107. **Orchestration.** The arrangement of music for orchestra; theoretical study of orchestral instruments and their functions.

Prerequisite: Mus 103. Senior year; first term; 2 recitations.

Mus 108. **History of Music.** Lectures on the evolution of musical thought, appreciation, and scholarship, presenting essential chronological data, with reference to the dominant characters of musical activity.

Three terms; 2 hours a week, in class.

Mus 109. **Pedagogy.** A pianoforte course, presenting systematically arranged material, and recommending approved methods of

instruction for beginners or advanced students. Open to sophomores, juniors, seniors, or accomplished special students. Private instruction.

Elective; three terms; 1 hour.

Mus 151. Theory. A major course in theory. Altered chords, chromatic progression of chords, and enharmonic transformation of discords as used in modulatory processes; inharmonic tones; wandering harmonies; modern harmonic theories; vocal and instrumental harmony with an irregular number of parts; style. Counterpoint applied in the invention for two, three, and more parts; contrapuntal chorale elaborations. Original work; harmonic dictation.

Prerequisites: Mus 102 and 301, or equivalents. Freshman year; 3 terms; 2 hours.

Mus 152. Theory. Composition in the simple homophonic forms; analysis. Harmonic dictation using altered and mixed chords.

Prerequisite: Mus 151. Mus 107 and 108 are required parallels. Sophomore year; three terms; 2 hours.

Mus 153. Theory. Advanced counterpoint applied in the various species of fugue, single and double, and the canon. Analysis.

Prerequisite: Mus 152. Junior year; 3 terms; 1 hour.

Mus 154. Theory. The larger forms of composition, including the variation, rondo forms, the sonatina, and sonata-allegro forms. Analysis. For graduation each student is required to compose an original instrumental or vocal composition in one of the larger forms.

Prerequisite: Mus 153. Senior year; three terms; 1 hour.

VOICE

Mus 201. Voice Culture and Singing. Exercises for correct breath control; freedom of action of vocal mechanism; purity of tone; blending of registers; correct pronunciation; distinct enunciation of vowels, consonants, and other elements of speech; suitable vocalises; appropriate songs; public singing subject to the discretion of the Director.

Parallel courses: Mus 101, 108; Physical Culture. Freshman year; three terms; 2 private lessons a week; 1 to 2 hours daily practice.

Mus 202. Voice Culture and Singing. Exercises for tone placing and beauty of quality, phrasing, style. Physiology of the vocal mechanism, with stress on conservation of voice. Appropriate songs of moderate difficulty. Public singing subject to the discretion of the Director. First year Italian, French, or other modern language.

Prerequisite: Mus 201 or equivalent. Parallel course, Mus 102. Sophomore year; three terms; 2 private lessons a week; 1 to 2 hours daily practice.

Mus 203. Voice Culture and Singing. Advanced technical development and interpretative skill, by means of difficult songs, vocalises, and ensemble singing, in English, and modern languages. Second year modern language as in Mus 203, continued three terms. Performance on public programs of the School of Music as required by the Director. Required: Two private lessons a week; practice daily.

Prerequisite: Mus 202 or equivalent. Parallel courses, Mus 103, 104. Junior year; 3 terms; 1 to 2 hours.

Mus 204. Voice Culture and Singing. Advanced study of vocal technique by means of masterpieces. Public singing as required under the rules and regulations of the School of Music. For graduation a public recital is required under conditions specified by the Director. Required: Two private lessons a week.

Prerequisite: Mus 203 or equivalent. Parallel courses, Mus 105, 106, 107. Senior year; three terms; 1 to 3 hours daily practice.

PIANO

Mus 301. Piano. Scales and arpeggios; exercises for speed and rhythm; etudes from Czerny, Cramer, Moszkowski, and others; easy sonatas of Haydn, Mozart, and Beethoven; easy compositions of Mendelssohn, Schubert, Schumann, Grieg, and others.

Prerequisite: Mus 300 or equivalent. Mus 101, 108, and Physical Education are required parallel courses. Freshman year; three terms; 2 private lessons a week; 2 to 4 hours daily practice.

Mus 302. Piano. Scales in various forms and technical exercises adapted to the particular needs of the student; etudes of Czerny, Cramer, Ruthardt, and others; suites and inventions of Bach; Mozart, Beethoven, and Weber sonatas of moderate difficulty; more difficult compositions by Mendelssohn, Schumann, Chopin, Liszt, and others; easy transposition, sight reading, and memory training.

Prerequisite: Mus 301 or equivalent. Mus 102, a modern language, and Physical Education are required parallel courses. Sophomore year; three terms; 2 private lessons a week; 3 to 5 hours daily practice.

Mus 303. Piano. Exercises based on technical difficulties in compositions studied in this course; a limited number of etudes by Rubinstein, Henselt, Haberbier, and others; well-tempered clavi-

chord; the more difficult sonatas of Beethoven and solos by Mendelssohn, Chopin, Schumann, Grieg, Liszt, Brahms, and others; concertos by Mozart, Mendelssohn, Beethoven, and Moscheles.

Prerequisite: Mus 302 or equivalent. Mus 103, 104, a modern language, and Physical Education are required parallel courses. Junior year; three terms; 2 private lessons a week; 3 to 5 hours daily practice.

Mus 304. Piano. Scales and exercises in double notes. Inclusive study of the principal classic and romantic composers; etudes by Chopin and Moszkowski; solo works of modern composers; concertos by Schumann, Chopin, Rubinstein, and others. Public performances under conditions approved by the Director. For graduation, students are required to perform publicly under the direction of the School of Music, playing a program not less than an hour in length, arranged by the instructor and approved by the Director.

Prerequisite: Mus 303 or equivalent. Mus 105, 106, and 107 are required parallel courses. Senior year; three terms; 2 private lessons a week; 3 to 5 hours daily practice.

THE DUNNING SYSTEM

Mus 305. Piano. Elective. A course in music study for beginners, whether adults or children. An attractive, original, and effective method of learning the facts of music, and playing the pianoforte. The powers of analysis, memory, and expression are materially strengthened; technical facility is gained in harmony with the best principles of pianoforte pedagogy; and musical taste and discrimination are substantially developed. A qualified, authorized, and experienced instructor is in direct charge of this department. Classes limited to six in number.

Three terms; 2 hours a week.

VIOLIN

Mus 401. Violin. Exercises for correct fingering, free bowing, accuracy as to pitch, rhythm, and intonation. Studies: Sevcik, Greenberg, Hohman, Kayser, Joachim, Moser, Singer, Seifriz, Laoreux. Elementary solos, sight reading duos by Mazas, or Dancla.

Parallel courses: Mus 101, 108, and 151. Three terms; 2 private lessons a week; 2 to 4 hours daily practice.

Mus 402. Violin. Studies by Kayser, Wohlfahrt, Schradieck, Mazas, Dont, Kreutzer, scales by Musin or Schradieck, solos, sonatas, ensemble playing at discretion of instructor.

Parallel courses: Mus 101, 152; ML 111, 112, 113; or ML 121, 122, 123; or ML 131, 132, 133. Three terms; 2 private lessons a week; 3 to 5 hours daily practice.

Mus 403. **Violin.** Advanced studies and compositions by Dancal, Fiorillo, Singer, Rode, Paganini, Dvorak, Brahms, Vieuxtemps, De Beriot, Viotti, and others, at the discretion of the instructor. Ensemble playing. Chamber music.

Parallel courses: Mus 103, 153; ML 211, 212, 213; or ML 221, 222, 223; or ML 231, 232, 233. Three terms; 2 private lessons a week; 3 to 5 hours daily practice.

Mus 404. **Violin.** Advanced studies, solos, ensemble, and chamber music, as approved by the instructor.

Parallel courses: Mus 104, 107, 154. Two private lessons a week; 4 to 5 hours daily practice. As a qualification for graduation, the student is required to present an authorized public performance of memorized compositions, in a program lasting not less than an hour, arranged by the instructor and approved by the Director.

LITERATURE FOR THE VIOLIN

In addition to the material outlined in the foregoing courses, appropriate studies selected by the instructor may be made, as indicated by individual requirements, from the following list:

Violin Schools: Sevcik, Joachim, Singer, Laoureux.

Etudes and Special Exercises: Mazas, Kayser, Wohlfahrt, Rode, Rovelli, Gavanies, de Beriot, Vieuxtemps, Wieniawski, Petri, Sitt, Casorti, Singer, Halir, Paganini, Campanoli, Wilhelmy, David.

Sonatas: Bach, six solo sonatas; Handel, Tartini Corelli, Leclair, Nardini, Veracini, Rust, Barthelemon, Pugnani, Mozart, Beethoven, Sjogren, G. Faure, Strauss (R.), A. Foote, Dvorak, d'Indy, Reger, Franck, Brill, Gade, Rubinstein, Schumann, Schubert, Brahms, H. Huber.

Compositions: Arrangements from the works of old Italian, or French, composers, as follows: Souvenir de Posen, Polonaise brillante No. I, opus 4; Polonaise brillante No. II, opus 21; Faust Fantaisie, Airs Russes, opus 6, Two mazurkas, opus 12, Scherzo-Tarantelle, opus 16, Capriccio-valse, opus 7, Legende, Wieniawski.

Fantaisie-caprice, opus II, Reverie, opus 22, Fantaisie appassionata, opus 35, Ballade ed Polonaise de concert, opus 38, by Vieuxtemps; Spanish dances, gypsy airs, Faust fantasies, La Fee d'Amour (Raff), by Sarasate.

Introduction et rondo capriccioso, opus 28, Havanaise, opus 83, Jota Aragonese, opus 64, by Saint Saens.

Miscellaneous compositions by Beethoven, Dvorak, Schumann, Ernst, David, Danccla, Hauser, Raff, Spohr, Tschaikowsky, Sinding, Rode, Laub, Centola, Lalo, Leonard, Paganini, Burmester, Kreisler, etc.

Concertos for Violin, with piano or orchestra accompaniment: Mozart, No. 4 and No. 5; Viotti-David, No. 22, Bach E and G min.; Ch de Beriot, Nos. 2, 7, 9; Beethoven; Brahms; Wieniawski D min., F sharp min.; Strauss R.; Saint-Saens, B min.; Rode-David, Nos. 7, 8; and from many other masterpieces, at the discretion of the instructor.

THE ORCHESTRA

Students of string instruments in attendance at the College, who are sufficiently advanced, are admitted to membership in the College Orchestra by the Conductor on terms approved by the Director. Every reasonable encouragement is given to the development and maintenance of a good orchestra under competent, progressive leadership. Students are invited to investigate these opportunities for excellent training in orchestra routine and solo playing. Such experience and drill are of great educational and cultural value.

The Orchestra library consists of works by the following composers: Dvorak, Brahms, Tschaikowsky, Grieg, Gounod, Verdi, Mendelssohn, Beethoven, Elgar, Wagner, Offenbach, Strauss, and others.

Sonatas for violin and piano; string trios; quartettes for two violins, viola, and 'cello, and for four violins, are available for study. All students in string instruments must perform from memory in public when requested by the instructor and approved by the Director. Membership in the ensemble classes is free, and instruction is given by the principal violin instructor.

BAND INSTRUMENTS

The work in theory required to complete these courses is that outlined in Mus 101 to 108 inclusive. Two private lessons a week required for twelve terms.

Mus 22. **Cornet.** Methods by Arban; characteristic studies by St. Jacome.

Mus 23. **Clarinet.** Methods by Dieppo; studies by Dieppo and Blume.

Mus 24. **French Horn.** Methods by Franz; studies by Franz and Hayffman.

Mus 25. **Band Instruments.** In all other band instruments, including the oboe, bassoon, saxophone, alto, and bass clarinets, drummer's traps, xylophone, and orchestra bells, the courses are similar to those given above.

SCHOOL OF MUSIC

The College Band. Instruction in the use of brass, wood-wind, and percussion instruments is given by the regular College band leader. To become a member of the College Band, a student must pass a satisfactory examination in the elements of music and ability to perform on his instrument. Members are required to attend daily rehearsals, and a reasonable amount of individual practice is expected. Each member must furnish his own instrument and music stand, except basses, baritones, altos, and drums, which are furnished by the College. Any student desiring to enter the band should see that his instrument is in low pitch.

DIPLOMAS

To each student satisfactorily completing the major courses in Harmony and Theory, Voice Culture and Singing, Pianoforte, Organ, Violin, or Band Instruments, a diploma is issued under the seal of the Oregon Agricultural College, and awarded at the regular annual graduation exercises.

REGULATIONS

Any student in the Oregon Agricultural College with a satisfactory record in scholarship in his major courses may elect at least one hour a day in music, by arrangement with the Director of the School of Music. The authority to register and assign all applicants for music instruction is vested solely in the Director, who must first be consulted for the arrangement of details of registration, or at any time when information is required that pertains to study in the various departments of the School.

Students in the School of Music may enter classes in other departments of the College; and they are encouraged to take at least one course throughout the college year in addition to their regular music work.

Applicants may take complete or part courses. Those registering for the former are classified as "regular music," while the others are classified as "special music." "Special music" students have the option of selecting such music studies as they desire by registering for them with the Director in the regular manner and at the catalogue rate of tuition.

Young women whose homes are not in Corvallis are expected to live in the dormitories, where they are under the supervision of the Preceptress. Outside rooming and boarding places may be obtained, subject to the approval of the Dean of Women. The rates for board and room are listed in the College catalogue.

Students registered for study in the regular courses of the Oregon Agricultural College School of Music are subject to the same rules and regulations as other students.

No student is permitted to omit lessons or practice without sufficient excuse and no refund will be made for absence from lessons or practice or for discontinuance, except in cases of severe personal illness; for such unavoidable absence lessons may be made up only by appointment, and before the expiration of the term.

Lessons falling on legal holidays, or on special holidays petitioned for by the student body or by special student organizations, which may be granted by the College authorities, will not be made up unless arranged for with the instructor before said holiday, and duly approved by the Director.

Students are not permitted to transfer tuition accounts to others, nor to receive credit for tuition fees beyond the assigned registration period, except in cases of severe personal illness, or similar extreme necessity, attested by the College Physician, and then only by making suitable arrangements with the Director.

The college year in the School of Music consists of thirty-six weeks, divided into terms of approximately twelve weeks each, the first term beginning at the opening of the College on September 20. The Summer Session offers special opportunities for intensive study in music. Announcement of the summer courses offered is by special bulletin obtainable from the Registrar.

TUITION

Private individual instruction is given in lessons of thirty minutes each, in all departments of the School of Music. Class instruction in theoretical branches is required of candidates for graduation, as specified in the outlines of courses. Terms for instruction are as follows:

Voice Culture and Singing—Professor Gaskins, private instruction:

One lesson a week, a term\$24.00

Two lessons a week, a term 48.00

Voice Culture and Singing—Genevieve Baum-Gaskins, private instruction:

One lesson a week, a term\$18.00

Two lessons a week, a term 36.00

Pianoforte—Gustav Dunkelberger, private instruction:

One lesson a week, a term\$24.00

Two lessons a week, a term 48.00

Note: An inclusive pedagogical course for teachers in pianoforte and a special course for students desiring note-reading, ear-training,

rhythm, and elementary composition of melodies, may be arranged for under Mr. Dunkelberger by application to the Director.

Pianoforte—Genevieve Baum-Gaskins, private instruction:

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|---|---------|
| One lesson a week, a term | \$24.00 |
| Two lessons a week, a term | 48.00 |
| Dunning system, class instruction, minimum requirement two lessons a week, a term | 25.00 |

Pianoforte—Ruth Rondeau, private instruction:

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|----------------------------------|---------|
| One lesson a week, a term | \$18.00 |
| Two lessons a week, a term | 36.00 |

Instruction available in Progressive Series by special arrangement with the Director.

Organ—Genevieve Baum-Gaskins, private instruction:

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|----------------------------------|---------|
| One lesson a week, a term | \$36.00 |
| Two lessons a week, a term | 72.00 |

Violin, Viola—Carl Grissen, private instruction:

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| One lesson a week, a term | \$24.00 |
| Two lessons a week, a term | 48.00 |

Band Instruments of All Kinds—Harry Lynden Beard, private instruction:

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|----------------------------------|---------|
| One lesson a week, a term | \$12.00 |
| Two lessons a week, a term | 24.00 |

Mandolin, Banjo—Private instruction (to be arranged):

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|----------------------------------|---------|
| One lesson a week, a term | \$12.00 |
| Two lessons a week, a term | 24.00 |

Theory—Class instruction:

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| Gustav Dunkelberger, two recitations a week, a term..... | \$ 7.50 |
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Theory—Private instruction, elective:

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|---|---------|
| Gustav Dunkelberger, twelve one-hour recitations..... | \$36.00 |
|---|---------|

Music History, Professor Gaskins, class instruction, free to students registered in the School of Music. To students not registered in the School of Music, one hour a week, a term

\$ 5.00

PIANO AND ORGAN PRACTICE

Rooms located in the Administration Building have been suitably furnished for the use of students wishing to practice in private. These rooms may be rented for about one-third the cost of using pianos located in private houses, and without any of the disadvantages connected therewith. The rooms have steam heat, good ventilation, electric light for night practice, and janitor service, and are

furnished with good pianos, kept in tune by the College. Students living in the College dormitories are required to practice upon these pianos. Students living away from the campus may arrange with the Director for practice upon the same terms and conditions.

One pipe-organ, a new, modern Kimball two manual, concave pedal board instrument of beautiful tone, is available.

Rental Rates. The following rentals are charged for instrumental practice for each term of twelve weeks:

Piano—

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|-------------------------|---------|
| One hour a day | \$ 5.00 |
| Two hours a day | 7.50 |
| Three hours a day | 10.00 |
| Four hours a day | 12.50 |
| Five hours a day | 15.00 |

Organ—

| | |
|--|---------|
| Term of twelve weeks, one hour a day | \$15.00 |
| Two hours | 20.00 |
| Three hours | 25.00 |

CORRESPONDENCE

For additional information address William Frederic Gaskins, Director of the School of Music, Room 30, Administration Building, Oregon Agricultural College, Corvallis, Oregon.

SUMMER SESSION

WILLIAM JASPER KERR, D.Sc., President of the College.

MAHLON ELLWOOD SMITH, Ph.D., Director of the Summer Session.
June 21-July 31

The chief purpose of the Summer Session is to afford an opportunity for study to those unable to attend during the academic year or to those who desire to shorten the regular period of residence required for a degree by earning additional credits during the summer. Courses are arranged for elementary and secondary teachers interested in Agriculture, Commercial branches, Home Economics, Physical Training, and Manual Training; for credit in regular collegiate subjects as well as for prospective students deficient in entrance credits; for those interested in music and art; and for those desiring practical instruction in Agriculture, Household Economics, and Manual Arts.

During the session a two-week course in Agriculture and Home Economics is given for boys and girls of the upper grammar grades and high school. Most of those attending are winners of local, county, or State prizes in the Boys' and Girls' Club contests. A limited number of boys and girls not prize winners are also admitted. A special bulletin gives particulars.

A large faculty, chiefly regular College instructors, supplemented by a number of specialists from other institutions and from other states, together with the extensive equipment in class rooms, laboratories, libraries, shops, and experimental fields, are at the service of the students.

GENERAL INFORMATION

Admission and Expenses. There are no entrance examinations or other educational tests for admission. Students desiring collegiate credit toward a degree, however, must meet entrance requirements and satisfy all other standards of the College. The registration fee of five dollars entitles the student to admission to as many courses as he cares to attend during the entire session. Private, individual lessons in music are given at the regular price charged during the college year; students taking music only need not pay the College registration fee.

The College dormitories, conveniently situated on the campus, accommodate about three hundred students with board and lodging. A charge of eight dollars per person for the session for a double room and twelve dollars for a single room is made to cover the cost

of heat, light, use of laundry, etc. The rooms are provided with bed, mattress, table, and chairs. Each student occupying one of these rooms must bring pillows, pillow-cases, sheets, blankets or comfort, bed-spread, and towels. A well-equipped laundry room is open for the use of students without charge. Students must provide electric irons.

A cafeteria will be open at Waldo Hall with prices as low as possible consistent with the prevailing costs of supplies and service. At the cafeteria maintained during the last Summer Session the board averaged \$6.00 a week, the expense being, however, entirely dependent upon individual choice. Lists of private lodging and boarding places will also be provided and every assistance rendered in finding satisfactory accommodations. Furnished rooms for light housekeeping may also be had.

Based on the experience of a number of students who reported at the last session, the entire cost in Corvallis of the six-week Summer Session need not exceed sixty dollars. This allows six dollars a week for board, eight dollars for room in dormitory, five dollars registration fee, one dollar for drayage on baggage, and ten dollars for laundry and incidentals. Expenses for text-books and laboratory fees are not included in this estimate.

Social and Other Features. Diversions from class and study routine have not only a social but an educational value as well. Recreation of various sorts is well provided for during the Summer Session, being so controlled and directed as to be inexpensive and unobtrusive.

The College numbers among its faculty some of the best-known popular lecturers in the State. Several will be heard in illustrated stereopticon addresses on interesting phases of Oregon's industrial development. In addition able lecturers and entertainers from other states appear on various occasions during the Summer Session. At least one evening each week is given up to entertainment, either in the form of a lecture of general interest, or a concert.

The tennis courts, baseball field, gymnasiums, and other recreational resources of the institution are used by the students and instructors, free of charge. Boating on the Willamette and Mary's rivers, picnics and excursions to various points of interest, including Mary's Peak, and week-end trips to the ocean at Newport, are available for those who desire to indulge in these recreations. The social features of the Summer Session are given careful attention, so they may not come in conflict with the regular work, but at the same time be full of pleasure and interest.

Summer Climate. Corvallis is pleasantly situated for summer study, the average summer temperature being 77° F. There is a refreshing ocean breeze every afternoon. The city water system supplies absolutely pure mountain water. The moral tone of Corvallis is on a par with its physical health and attractiveness.

Special Illustrated Bulletin. Each spring circulars and a special illustrated bulletin are issued pertaining to the Summer Session. These publications, which are sent upon request, contain detailed descriptions of all courses offered, particulars concerning living and other expenses, directions for registration, and list of instructors and lecturers.

COURSES

AGRICULTURE

AGRICULTURAL EDUCATION

1. **Elementary Education in Agriculture.** AEd 421.
Two credits; 2:00-3:00 daily.
2. **General Science for Teachers.**
Two credits; 3:00-4:00 daily.
3. **Secondary Education in Agriculture.** AEd 412.
Two credits; 9:00-10:00 daily.
4. **Education Resources of the Rural Community.** AEd 431.
Two credits; 11:00-12:00 daily.
5. **General Agriculture for Teachers.** AEd 433.
Three credits; 2:00-3:00 MWF; 2:00-4:00 TTh.
6. **Extension Methods.** HEd. 443. See Home Economics "Extension Methods."

TECHNICAL COURSES

1. **Vegetable Gardening.** Hrt 221.
Three credits; 8:00-9:00 daily *A. G. Bouquet*
2. **Poultry Husbandry.** PH 201.
Three credits; 9:00-10:00 MWF; 2:00-4:00 TTh. *A. G. Lunn*
3. **Farm Crops.** FC 100s.
Three credits. 10:00-11:00 MWF; 1:00-3:00 TTh. *C. C. Ruth*
4. **Landscape Gardening for School Grounds and Country Homes.**
Hrt 231.
Three credits; 1:00-3:00 WThF; 2:00-3:00 MT. *A. L. Peck*

5. Farm Dairying. DH 200s, 20s.

Three credits; 8:00-9:00 MWF; 8:00-10:00 TTh.

*V. D. Chappell***6. Farm Mechanics.** FM 111, 112.Three credits; 9:00-10:00 MWF; 9:00-12:00 TTh. *W. J. Gilmore***COMMERCE****COMMERCIAL EDUCATION****1. Secondary Education in Commerce.** CED 452.

Three credits; 3:00-4:00 daily.

*H. T. Vance***2. Condensed Commercial Course for Teachers.**

No credit; 8:00-12:00.

*H. T. Vance, E. B. Lemon, Etha M. Maginnis***BUSINESS ADMINISTRATION****1. Principles of Accounting.** BA 102.

Three credits; 1:00-3:00 daily.

*E. B. Lemon***2. Penmanship.** BA 11s.

Three credits; 3:00-4:00 daily.

*J. B. Horner***ECONOMICS AND SOCIOLOGY****1. Introduction to Economics.** ES 311.

Three credits; 9:00-10:00 daily.

*N. H. Comish***2. Rural Sociology.** ES 464s.

Three credits; 10:00-11:00 daily.

*N. H. Comish***3. Commercial Geography.** ES 101s. (Given alternate years.

Not given in 1920.)

POLITICAL SCIENCE**1. National Government.** PS 301.

Three credits; 8:00-9:00 daily.

*F. A. Magruder***2. International Relations.** PS 402.

Three credits; 9:00-10:00 daily.

*F. A. Magruder***STENOGRAPHY AND OFFICE TRAINING****1. Elementary Stenography.** OT 101.

Three credits; 10:00-12:00 daily.

*H. T. Vance***2. Elementary Typing.** OT 111.

Two credits; 8:00-10:00 daily.

Etha M. Maginnis

EDUCATION *

1. **Vocational Psychology.** Psy 312s.
Three credits; 10:00-11:00 daily. *G. R. Varney*
2. **Educational Psychology.** Psy 322s.
Three credits; 9:00-10:00 daily. *G. R. Varney*
3. **Introduction to Education.** Ed 302.
Two credits; 10:00-11:00 MTWTh. *F. H. Shepherd*
4. **Vocational Guidance.** Ed 431.
Two credits; 8:00-9:00 MTWTh. *W. J. Breit*
5. **Organization and Administration of Vocational Schools Under the Smith-Hughes Law.**
Two credits; 3:00-4:00 MTWTh. *F. H. Shepherd*

HOME ECONOMICS**HOME ECONOMICS EDUCATION**

1. **Secondary Education in Home Economics.** HEd 400s.
Two credits; 8:00-9:00 MTWTh. *Bertha S. Davis*
2. **Practice Teaching in Home Economics.** HEd 412s.
Two and one-half credits; 9:00-10:30 daily. *Lura A. Keiser*
3. **Organization and Administration of Vocational Home Economics Education.** HEd 430s.
One and one-half credits; hours to be arranged. *Bertha S. Davis*
4. **Extension Methods.** HEd 443.
Two credits; 8:00-9:00 MTWTh. *Anna M. Turley*

HOUSEHOLD ADMINISTRATION

1. **Sanitation and Public Health.** HAd 300.
Three credits; 8:00-9:00 daily. *Emma S. Weld*
2. **Housewifery.** HAd 310.
Three credits; 1:00-4:00 MWTh. *Emma S. Weld*
3. **Household Management.** HAd 440.
Three credits; 10:00-11:00 daily. *Miss R. Smith*
4. **Practice Housekeeping.** HAd 450.
Four credits; 9:00-10:30 daily. *Miss R. Smith*

* Note: Courses in Methods and in Education as applied to the various schools and departments will be found under the departments concerned; e. g. Agricultural Education under Agriculture.

HOUSEHOLD ART

1. **Dressmaking for Teachers.** HA 311s.
Three credits; 1:00-4:00 MTWTh. *Gertrude Strickland*
2. **Textiles for Teachers.** HA 315.
Three credits; 8:00-9:00 MTWTh. *Margaret Morehouse*
3. **The House.** HA 438.
Three credits; 1:00-2:00 daily. Lab. 2:00-4:00 MTWTh.
Margaret Morehouse
4. **Textiles and Clothing.** HA 113.
Four credits; 8:00-9:00 MTWTh. Lab. 9:00-12:00 daily.
Alma C. Fritchhoff
5. **Advanced Textiles and Clothing.** HA 311.
Five credits. Lec. 11:00-12:00 MTh. Lab. 1:00-4:00 daily.
Mary Van Kirk
6. **Costume Design.** HA 331.
Three credits. Lec. 9:00-10:00 daily. Lab. 10:00-12:00 MTWTh.
Louise A. Schneider
7. **Tailoring.** HA 416.
Four credits. Lab. 1:00-4:00 daily, Sec. 1. Lab. 9:00-12:00 daily,
Sec. 2. *E. Gurney*
8. **Advanced Textiles.** HA 316.
Three credits; 8:00-9:00 daily. *Helen L. Davis*

HOUSEHOLD SCIENCE

1. **Foods and Cookery.** HS 101.
Two credits; 9:00-12:00 TWThF. *Lillian Taylor*
2. **Dietetics for Teachers.** HS 320s.
Four credits. Lec. 9:00-10:00 daily. Lab. 10:00-12:00 daily.
Sarah L. Lewis
3. **Methods of Demonstration.** HS 430.
One credit; 1:00-4:00 TTh. *Anna M. Turley*
4. **Dormitory Cafeteria.** HS 444s.
Three credits. Lec. 8:00-9:00 T. Lab. 9:00-1:00 daily.
Sybilla Hadwen
5. **Camp Cookery.** HS 450.
One credit; 5:00-8:00 (p. m.) MW. *Lillian Taylor*

INDUSTRIAL ARTS

INDUSTRIAL EDUCATION

1. **Organization and Administration of Manual Arts.**
Three credits; 11:00-12:00 daily. *W. J. Breit*

2. Special Method in Manual Training.

Three credits; 9:00-10:00 daily.

*W. J. Breit***3. Theory and Practice of Elementary Manual Arts.** 1Ed 382.

8:00-10:00 daily.

F. H. Shepherd

TECHNICAL COURSES

1. Shop Drawing, Elementary. IA 191s.

Three credits; 8:00-10:00 daily.

*H. C. Brandon***2. Shop Drawing and Furniture Design.** IA 193s.

Three credits; 8:00-10:00 daily.

*H. C. Brandon***3. Mechanical Drawing.** ME 111.

Three credits; 10:00-12:00 daily.

*H. C. Brandon***4. Woodworking, Elementary.** IA 121s.Three credits; 10:00-12:00 daily. *H. C. Brandon, A. R. Nichols***5. Woodworking, Advanced.** IA 114s.Three credits; 8:00-10:00 daily. *H. C. Brandon, A. R. Nichols***6. Wood Turning.** IA 333s.

Three credits; 2:00-4:00 daily.

*D. K. Mereen***7. Carpentry Construction.** IA 222.

Three credits; 10:00-12:00 daily.

*D. K. Mereen***8. Mill Work and Veneering.**

Three credits; 1:00-3:00 daily.

*D. K. Mereen***9. Wood Finishing and Furniture Upholstering.**

Three credits; 1:00-3:00 daily.

*H. C. Brandon***10. Patternmaking.** IA 212s.

Three credits; 8:00-10:00 daily.

*D. K. Mereen***11. Blacksmithing, Elementary.** IA 152s.

Three credits; 8:00-10:00 daily.

*W. M. Porter***12. Blacksmithing, Advanced.** IA 252.

Three credits; 10:00-12:00 daily.

*W. M. Porter***13. Hammered Metal Work.** IA 352.

Three credits; 2:00-4:00 daily.

*W. M. Porter***14. Machine Shop Practice.** IA 262s.

Three credits; 8:00-10:00 daily, 2:00-4:00 daily.

*G. H. Hill***15. Machine Shop Practice, Advanced.** IA 461s, 462s.

Three credits; 10:00-12:00 daily, 2:00-4:00 daily.

*G. H. Hill***16. Auto Mechanics.** IA 181s.

Three credits; 8:00-10:00, 10:00-12:00, 2:00-4:00 daily.

*M. L. Granning***17. Foundry Practice.** IA 141s.

Three credits; 10:00-12:00 daily.

*A. E. Ridenour***18. Printing.**

Three credits; 1:00-3:00 daily.

A. R. Nichols

INDUSTRIAL JOURNALISM**Elementary Journalism.** IJ 200.

Three credits; 9:00-10:00 daily.

*F. L. Snow, C. J. McIntosh***PHYSICAL EDUCATION****1. Elementary Gymnastics.** PEw 111.

One credit; 9:00-10:00 daily.

*Blanche MacClatchie***2. Elementary Gymnastics.** PEm 231s.

One credit; 8:00-9:00 TTh.

*R. O. Coleman***3. Elementary Aesthetic Dancing.** PEw 131a.

One-half credit; 3:00-4:00 daily.

*Blanche MacClatchie***4. Elementary Folk Dancing.** PEw 131b.

One-half credit; 3:00-4:00 daily.

*Blanche MacClatchie***5. Outdoor Sports.** PEw 131.

a. Tennis, 3 weeks; $\frac{1}{2}$ credit; 9:00-10:00 daily. b. Hockey and
 g. Track Athletics and Volley Ball, 3 weeks; $\frac{1}{2}$ credit; 9:00-10:00
 daily. c. Basket-ball, 3 weeks; $\frac{1}{2}$ credit; 10:00-11:00 daily. d.
 Baseball, 3 weeks; $\frac{1}{2}$ credit; 10:00-11:00 daily.

*Ruth Wininger***6. Elementary Swimming.** PEw 151.

One credit; 4:00-5:00 daily.

*Ruth Wininger***7. Advanced Gymnastics and Light Apparatus.** PEw 211.

One credit; 10:00-11:00 daily.

*Blanche MacClatchie***8. Advanced Swimming.** PEw 252.

One credit; to be arranged.

*Ruth Wininger***9. Advanced Aesthetic Dancing.** PEw 331a.Three weeks; $\frac{1}{2}$ credit; 4:00-5:00 daily.*Blanche MacClatchie***10. Advanced Folk Dancing.** PEw.Three weeks; $\frac{1}{2}$ credit; 4:00-5:00 daily.*Blanche MacClatchie***11. Advanced Hygiene and Sanitary Science.** PEw 423.

Three credits; 9:00-10:00 daily.

*Edna A. Cocks***12. Kinesiology.** PEw 344.

Three credits; 9:00-10:00 daily.

*Isabelle Bovee***13. Playground and Gymnastic Games.** PEw 375.

Three credits; 2:00-3:00 daily.

*Isabelle Bovee***14. School-room Games and Gymnastics for School Teachers.**

Three credits; 9:00-10:00 daily.

*R. O. Coleman***15. Pageantry and Community Recreation.** PEw 473.

Three credits.

*Edna A. Cocks***16. Methods of Coaching Athletic Teams.** PEm 232s.

Three credits; 3:00-5:00 daily.

R. O. Coleman

17. Theory and Coaching of Athletic Sports for Women. PEw 376.

Three credits; 3:00-4:00 daily.

Ruth Wininger

19. Practice Teaching. PEw 464.

Two credits.

Isabelle Bovee

20. Organization and Administration of Physical Education and Recreation. PEw 472.

Three credits; 10:00-11:00 daily.

Edna A. Cocks

21. Organization and Leadership of High School Physical Education.

Two credits; 8:00-9:00 MWF.

R. O. Coleman

APPLIED ARTS AND SCIENCES

ART

1. Elementary Drawing. A 110s.

One credit; 8:00-10:00 TThF.

Ethel Stilz

2. Blackboard Sketching.

One credit; 10:00-12:00 MWF.

Ethel Stilz

3. Design. A 120s.

Four credits; 8:00-10:00 MTWTh.

F. D. McLouth, Ethel Stilz

4. The Theory and Harmony of Color. A 130s.

Four credits; 10:00-12:00 MTWTh.

F. D. McLouth

BOTANY

1. Classification of Economic Plants. Bot 331.

Three credits; 9:00-12:00 MWF, 9:00-10:00 TTh.

Helen M. Gilkey

CHEMISTRY

1. General Chemistry. Ch 101s.

Six credits; 8:00-11:00 daily.

Valda E. Smith

2. Organic Chemistry. Ch 221s.

Four credits; 8:00-11:00 daily.

B. Coyne

3. Qualitative Analysis. Ch 131.

Three credits; 8:00-12:00 daily.

J. Fulton

4. Quantitative Analysis. Ch 241.

Three credits; 8:00-12:00 daily.

J. Fulton

ENGLISH

1. Principles of English Composition. Eng 101s.

Three credits; 10:00-11:00 daily.

H. W. Schoenberger

2. Business English. Eng 105s.

Three credits; 2:00-3:00 daily.

H. W. Schoenberger

3. Industrial Journalism. IJ 200 (see page 390).

4. English Literature. Eng 321s.

Three credits; 1:00-2:00 daily.

F. Berchtold

5. American Literature. Eng 431s.

Three credits; 3:00-4:00 daily.

*F. Berchtold***6. Romantic Poetry.** Eng 322s.

Three credits; 9:00-10:00 daily.

*H. W. Schoenberger***7. Principles of Story Telling.** Eng 467s, 468s.

Three credits; 3:00-4:00 daily.

*Mrs. V. D. Chappell***8. Practical Public Speaking.** Eng 251s.

Three credits; 11:00-12:00 daily.

*G. R. Varney***HISTORY****1. History of Oregon.** Hst 241.

Three credits; 1:00-2:00 daily.

*J. B. Horner***2. Recent History of the United States.** Hst 122.

Three credits; 2:00-3:00 daily.

*J. B. Horner***LIBRARY PRACTICE****Library Practice for Teachers.**

Three credits; 2:00-3:00 daily.

*Lucy M. Lewis***MATHEMATICS****1. Elementary Algebra.** Mth 21.

Three credits; 9:00-10:00 daily.

*F. C. Kent***2. Elementary Algebra.** Mth 22.

Three credits; 10:00-11:00 daily.

*F. C. Kent***3. Plane Geometry.** Mth 81.

Three credits; 11:00-12:00 daily.

*F. C. Kent***4. Teachers' Course in Algebra and Geometry.**

Three credits; 2:00-3:00 daily.

*F. C. Kent***PHYSICS****1. General Physics.** Ph 202.

Three credits; 9:00-12:00 daily.

*W. B. Anderson***2. Review Course.**

11:00-12:00 MWF, 1:00-3:00 TTh.

*W. B. Anderson***ZOOLOGY****1. Animal Ecology.** ZP 130s.

Three credits (5 credits may be earned by arrangement); 2:00-6:00 TTh, 10:00-11:00 MW.

*G. F. Sykes, W. M. Wight***2. General Physiology.** ZP 213.

Three credits; 2:00-3:00 MWF, 1:00-4:00 TTh.

*G. F. Sykes, Aravilla Taylor***SUMMER SCHOOL OF MUSIC**

Courses in all departments. Director: W. F. Gaskins.

SHORT COURSE FOR BOYS AND GIRLS

First two weeks of session. Direction of H. C. Seymour, State Leader of Industrial Clubs.

EXPERIMENT STATION

WILLIAM JASPER KERR, D.Sc., President of the College.

JAMES TERTIUS JARDINE, B.S., Director of the Experiment Station.

The Oregon Agricultural College Experiment Station was organized July 2, 1888, in accordance with the Act of Congress of 1887 known as the Hatch Act. The Experiment Station includes the Home Station at Corvallis and seven branch stations advantageously located throughout the State in such a way as to cover the varying agricultural conditions of the State. At the Home Station about 900 acres of land are used by the College and Station workers engaged in the scientific investigation of problems presented by the different branches of agriculture. The Station organization includes the following departments: Agricultural Chemistry, Animal Husbandry, Bacteriology, Botany and Plant Pathology, Dairy Husbandry, Entomology, Farm Crops, Farm Management, Horticulture, Poultry Husbandry, Soils, Veterinary Medicine, Zoology. In addition to the experimental work carried on by the departments of the Station proper, experimental work is conducted by the School of Engineering, the School of Home Economics, and the School of Pharmacy.

The scientific investigations of the Station Staff strongly support the instruction given in the class room and through the Extension Service. Aside from the original investigations of economic significance to agriculture, the work affords daily object lessons in modern farm methods. To the students in the various fields of study the value of the investigative work can hardly be overestimated. To the State, from the point of view of economic progress, its value has been greater, in the estimation of many people, than the entire cost of the College to the people. The work of the Experiment Station is fundamental in the agricultural development of the State. Oregon's soil and climatic conditions present many problems that are unique and that must be solved before the State can develop its great potential agricultural wealth.

As an instance of the general appreciation on the part of Oregonians of the services rendered by the Experiment Station, mention may be made of the strong endorsement presented to the 1919 Legislature through special delegations. No less than six separate delegations representing respectively the horticultural interests, the dairy interests, the Hood River district, the Southern Oregon district, and the Astoria district, covering practically every part of the

State, urged upon the Legislature that the assistance of the Experiment Station was essential to the progress and development of their work.

As an illustration of the comprehensive character of the investigational work carried on by the Station, the following brief summaries of projects, by departments, are presented:

Agricultural Chemistry. This department, either independently or in cooperation with other departments of the College, has under way a considerable number of experiments that are of wide significance both to the economic interests of the State and Nation and to the cause of science. Experiments with arsenical sprays, that represent a total annual expenditure throughout the country of six to eight million dollars, are directed to the object, first, of determining exactly how the efficiency of these arsenicals is best conserved, and second, how a less expensive form of a similar insecticide may be developed. The first object has been partly accomplished, with promise of conclusive results, and the second, through the use of calcium arsenate, seems also within reach of fulfillment. A study of the acid or sour soils of the State of Oregon is being made to ascertain, if possible, by means of pot experiments and laboratory tests, the causes of acidity and to what degree applications of various forms of lime will correct this abnormal condition. It has been found that some acid soils respond to lime treatment while others do not. A physical and chemical examination of these types of soil is being made as to treatment with different calcium salts in order that information regarding this inconsistency may be obtained. In cooperation with the Southern Oregon Branch Experiment Station, at Talent, the department has made a complete chemical survey of the soils of the Rogue River Valley, with a view to determining the deficiencies to be supplied by fertilizers. Sulfur is found to be the element, which, when added to certain of these soils, increases the production of alfalfa and other legumes by percentages running into the hundreds. These fertilizer experiments promise some very striking and valuable results. Incubation experiments, now reaching completion after several years of laborious and painstaking study, go to show that varying the conditions of incubation varies also the quality of the chicks produced. Limited experiments with loganberry juice have been conducted to determine what jelly-making acids are present in the juice, what modifications appear in the juice of the second pressing, and what use may be made of the pulp. Soil analyses conducted in connection with the reclamation service have comprehended one-half million acres of land. Routine analyses of commercial fertilizers, especially of limestone,

have shown the need of caution in the use of these fertilizers at current prices unless the quality is high. Analyses of insecticides on the market are on file at the Chemist's office, where information concerning any of them may be had, free of charge, on application.

Animal Husbandry. Experiments in Animal Husbandry, which comprehend tests with horses, beef cattle, sheep, and swine, are conducted partly at the Corvallis Station and partly at the Eastern Oregon branch stations. Experiments with horses are directed to determine the cost of horse-power for various types of farm and other work, the amount of work that may reasonably be expected from a horse, the cost of keep, etc. Experiments with beef cattle, conducted chiefly at Union, are concerned with fattening steers on various rations and with methods of maturing range cattle. Experiments with sheep have been directed to determine the cost of production, the carrying capacity of different types of pasture, methods of fattening sheep, maturing ewes, and methods of rearing and marketing lambs for meat purposes. Experiments with hogs involve the cost of production, including rapidity of gain; and comparison of different feeding rations and methods of feeding, including the use of pasture.

Bacteriology. Experimental work in Bacteriology is chiefly concerned with soil analyses, dairy manufacturing, sanitation, and diseases of poultry. Three experimental projects of economic importance that are now under way are the following: (1) The effect of lime and landplaster on the growth of soil bacteria and therefore on the crop; (2) The effect of dryness and varying degrees of soil acidity on the growth of legume bacteria; (3) The facts concerning the prevalence, transmission, and means of control of chicken diseases such as tuberculosis and white diarrhoea.

Botany and Plant Pathology. The work in this department includes the following investigations: methods of control for grain smuts and their effect on the vitality of the seed; storage decays of potatoes and other vegetables and their prevention; wilt diseases of potatoes and other crops; the control of onion smut and onion mildew; relative efficiency of various fungicides both liquid and dust; control of peach diseases; walnut blight control; brown-rot prevention; bean diseases; Oregon crop-disease survey; poisonous-plant investigations; weed studies; the deterioration of orchard trees through bark and wood decays and other causes; the study of natural vegetation as an indication of agricultural possibilities.

Dairy Husbandry. Experiments in this department are directed to standardizing the color of butter and to determining the amount of coloring matter to be added to cream of a certain test, by sam-

ple, in order to bring it to standard color, or "June shade;" to determine the keeping quality as affected by different methods of cream neutralization and pasteurization; to determine the cost of manufacture of different dairy products under commercial conditions; to determine, by testing the different factors in the handling of milk, what are the essentials in reducing the bacterial count of milk for market; to determine the function of the so-called milk veins and their bearing on milk production; to determine the factors influencing the percentage of fat content in milk; to determine the feeding value of alfalfa meal as a substitute for the usual grain feeds; to determine the value of kale as compared with silage as a succulent feed.

Entomology. Experiments in Entomology include tests to determine the toxicity of various insecticides with three objects in view: (1) To discover new and cheaper insecticides; (2) To discover possible combinations of sprays that will reduce the number of necessary applications; (3) To determine the actual amount of poison necessary to kill a given insect. Experiments also include tests to determine possible means of control for root borers and other root-infesting insects that carry plant diseases; and ecological and life-history studies on orchard plant lice.

Farm Crops. This department has in hand the following eleven specific experimental projects of chief importance: (1) Variety tests of wheat, oats, barley, flax, vetch, potatoes, and corn; (2) Cultural tests on miscellaneous crops such as sudan grass, sunflowers, mustard, soy beans, and cowpea; (3) Seeding experiments on the time, rate, and date of seeding cereals and legumes; (4) Selection and breeding work with cereals and legumes; (5) Grain and seed storage and handling investigations; (6) Hay handling and storage investigation; (7) Silage making; (8) Grain milling value and milling tests; (9) Crop rotations; (10) Cost of producing crops; (11) Effect of fertilizer on quality of crop.

Farm Management. By means of the farm survey and through farm-record keeping and study of individual cases, a number of the important phases of farm management are being investigated. These are as follows: (1) The determination of the chief factors in successful farming in six different counties of the State, through farm surveys and records; (2) Determination of the cost of production of different crop and livestock products and the cost of various farm operations, in sixteen counties, through record keeping; (3) Methods, efficiency, and costs in manure handling and preservation, through a survey; (4) Farm organization and man-

agement planning on individual farms; (5) Methods and costs of land clearing under different conditions.

Some special study is being given to labor supply and labor efficiency on the farm at this time.

Horticulture. Experiments in Horticulture comprise the following types of investigations: (1) The pollination of the pomaceous fruits, including the gross morphology of the apple, fruit-bud development of the apple; variation of the internal structure of apple varieties, etc.; (2) Irrigation work with apples and pears; (3) Experiments with stocks of prunes; (4) Problems of both winter and summer pruning; (5) Strawberry variety tests; (6) Cover-crop investigations; (7) Fertilizer investigations; (8) Breeding investigations with cherries, apples, prunes, and strawberries; (9) Investigations in orchard economics; (10) Vegetable gardening investigations with greenhouse tomatoes, onions, and type selection for canning; (11) Investigations with by-products of fruits and vegetables; (12) Investigations in the relation of depth of planting to mortality of trees; (13) Harvesting and storage investigations with pears.

Poultry Husbandry. Experiments in Poultry Husbandry are chiefly concerned with problems of incubation and with breeding fowls for high average egg production, and for a combination of egg production and meat value. Results in both fields of experimentation have already been remarkable and promise still greater progress toward the objects desired. A new breed, the Oregon, seems to be established with the attributes sought.

Soils. The work in this department includes the following twelve specific investigational projects: Fertility rotations; fertilizer experiments; soil-acidity tests and lime trials; cooperative soil survey; soil correction trials; toxicity of alkali salts to crops; cooperative tillage and soil moisture studies; surveys and feasibility of irrigation and drainage projects; cooperative duty of water and related investigations; experiments in the distribution of water and improvement of irrigation practice; drainage and improvement of wet soils; and evaporation and weather studies in relation to soil production. A comprehensive system of crop rotations and fertilizer trials is being conducted on some fifteen of the chief soils of the State to help develop a permanent system of agriculture. The duty of water and related investigations are conducted cooperatively with the U. S. Department of Agriculture. It is state-wide in scope with agents at Klamath, Redmond, and Burns in Eastern Oregon. The aim is to determine the right amount of water for the chief soil types and leading crops under the main types of farming in the principal irrigated valleys.

of the State. The surveys to determine the feasibility of proposed drainage or irrigation projects are made as demand arises. The experiments in drainage are to determine the most efficient depths and distance apart for placing drains in soils of different types, and for testing the efficiency of bedding drains in straw as compared with soils. Since there are one-half million acres of marsh lands in the State and three million acres of land periodically wet, the value of these investigations is obvious. If efficient drainage should add to the value of the land the average determined for this work in the Middle West, the reclamation of the State's wet soils would add at least \$10.00 an acre to the value of these millions of acres.

Veterinary Medicine. The experimental work of this department has been devoted chiefly to finding means for prevention of sterility in cattle, and to study the so-called walking disease of horses.

EXTENSION SERVICE

WILLIAM JASPER KERR, D.Sc., President of the College.

PAUL VESTAL MARIS, B.S., Director of Extension Service; State Leader of County Agents.

MARGARET FARQUHAR COOK, Secretary of Extension Service.

HECTOR MACPHERSON, Ph.D., Professor of Economics and Sociology; Director of the Bureau of Organization and Markets.

WILBUR LOUIS POWERS, M.S., Professor of Soils; Extension Specialist in Drainage and Irrigation.

EDWARD BLODGETT FITTS, Professor of Dairy Husbandry, Extension Service.

HARRY CASE SEYMOUR, State Leader of Industrial Clubs.

JESSIE DUNLAVEY MCCOMB, M.S., State Leader of Home Demonstration Agents.

WALLACE LADUE KADDERLEY, B.S., Assistant State Leader of County Agents.

FRANK LLEWELLYN BALLARD, B.S., Assistant State Leader of County Agents.

ORAN MILTON NELSON, B.S., Associate Professor of Animal Husbandry, Extension Service.

HELEN JULIA COWGILL, B.S., Assistant State Leader of Industrial Clubs.

EDGAR LEROY WESTOVER, B.S., Field Dairyman.

CHARLES JARVIS MCINTOSH, B.S., Assistant Professor of Industrial Journalism; Editor of Press Bulletins, Extension Service.

REUBEN VEERIN GUNN, B.S., Farm Management Demonstrator.

LEONARD JOHN ALLEN, M.S., State Livestock Club Leader.

WALTER SQUIRE CARPENTER, B.S., Farm Crops Specialist.

HERBERT ELMER COSBY, Instructor in Poultry Husbandry; Specialist in Poultry Husbandry, Extension Service.

PAUL MEHL, Agent in Marketing.

IRA GABRIELSON, United States Biological Survey Assistant Biologist.

The Extension Service is one of the three great divisions of the Oregon Agricultural College, whose functions are: resident instruction, experiment and research, and college extension.

The Extension Service is charged with the duty of extending the benefits, advantages, and available information of the College and of the United States Department of Agriculture to every portion of the State and to all those persons who for any reason are unable to come to the College.

The Extension Service includes all forms of off-campus instruction and assistance in those subjects in the College curriculum which lend themselves to extension methods or which can be taken and adapted to the direct needs of the people of the State. The various Extension activities are the means through which information, instruction, assistance, and methods of self-help are carried to all persons who desire them at any point within the State. In brief, the Extension Service represents the medium, both independently and in hearty cooperation with all other organized forces of betterment, for enlarging and enriching the agricultural and home interests of Oregon. No county, town, hamlet, farm, or home need be without some evidence of this service.

To accomplish the objects sought, various methods are employed; namely, teaching by demonstration, giving of accurate and timely information, organization, planning for social and other recreation, and cooperating with Experiment Station and other organized forces. In a field so large, with such a multiplicity of problems and conditions, and with numerous methods of action, there is grave danger of unwise or wasteful undertakings. To prevent this the law requires the preparation of written plans for work and proposed expenditure of funds. These plans must be approved by the United States Secretary of Agriculture and by the President of the Oregon Agricultural College. These detailed plans of work are called projects. They must be approved before they are inaugurated, must be reported on at the close of each fiscal year, and when once adopted and signed cannot be altered or deviated from without the written consent of the authorities of the United States Department of Agriculture.

The several distinct lines of work now covered by written projects, from which the citizens of some portion of the State are receiving benefit, include:

- (1) General Administration and Organization of the Extension Service, which also embraces a sub-project, Printing and Distribution of Publications.

- (2) County Agricultural Agents.

- (3) Home Economics and Home Demonstration Agents.

- (4) Boys' and Girls' Clubs.

- (5) Animal Husbandry.

- (6) Dairying.

- (7) Drainage and Irrigation.
- (8) Farm Crops.
- (9) Farm Management Demonstrations.
- (10) Field Entomology, Plant Pathology, Bacteriology.
- (11) Field Horticulture.
- (12) Poultry Husbandry.
- (13) Rodent Control.
- (14) Rural Organization and Markets.
- (15) Extension Schools and Meetings.
- (16) Personal Information and Advisory Correspondence.

It should not be assumed that these projects cover the only problems of importance within the State. It is the purpose to put into operation and to emphasize those lines of Extension Service that are fundamental to large and important interests of farm or home welfare, or to material agricultural development.

The County Farm Bureau. The county farm bureau, a representative body of citizens of the county selected by individual communities, is an effective means of cooperation between the county, the College, and the United States Department of Agriculture. The complete farm bureau embraces representatives from every community in the county. Through local and county conferences the members of this bureau determine a complete "program of work" for the year. This program, which comprehends all phases of extension activity, becomes the basis for the budget item which the county acts upon in considering its appropriation for agricultural extension. Adopted by the farm bureau, and endorsed by the county board through an appropriation, this program thus becomes the basis for expenditures of the county, State, and Federal funds available for the agricultural extension work of any particular county.

Importance of Extension Work in Oregon. The magnitude of the problem of College Extension in Oregon can be fully realized only by keeping in mind that the State has a population of nearly 900,000 distributed over a total area of 96,699 square miles—a territory greater than the combined areas of Illinois and Indiana and almost as great as the combined areas of New York, New Jersey, and Pennsylvania. The State, moreover, has few railroads, and in certain sections is very sparsely settled. The people who are to be reached by extension methods represent the greatest extremes in age, capacity, education, experience, and environment. Oregon's great diversity in elevation, precipitation, temperature, soil, and climatic conditions, complicates the problem of Extension Service, and makes it important in proportion to its complexity.

All persons or communities in the State wishing to make use of the assistance to which they are entitled and which will freely be given in any of the lines indicated, should communicate with the county representative of the Extension Service (County Agent, Home Demonstration Agent, or County Club Leader) direct, or with the Extension Service, Oregon Agricultural College, Corvallis, Oregon, as far as possible in advance of the time the appointment is desired. Short-notice requests may not find the College in position to render the service desired. If an Extension School is desired, particulars should be given pertaining to the time proposed, the nature of the subjects in which the community will be interested, and the plans for the meeting. If a single lecture or demonstration or exhibit is wanted, it is important to be equally prompt and explicit.

It must be remembered that while the College is eager and willing at all times to help all who apply, its staff, facilities, and funds are limited. On this account, the Extension Service is sometimes unable to give aid where it would like most to give it. Requests for instruction or other assistance, however, should not be withheld. The great majority of the State's needs have been, and generally can be, cheerfully and efficiently met.

ADMINISTRATIVE

The administrative work of the Extension Service is vested in a Director and heads of the various departments. The administrative duties consist of planning and coordinating the several lines of Extension work, dividing and assigning funds, planning the Extension campaigns, meetings, schools, conferences, demonstrations, etc., authorizing all Extension publications, planning and arranging exhibits, and supervising the prosecution of all phases of the work. Reports are required covering all lines of Extension Service and periodical reports are made to College officials and other cooperating agencies.

COUNTY AGENT WORK

The largest branch of the Extension Service at the present time is the County Agent work. In charge of this division are the State Leader and Assistant State Leaders. Prosecuting the work throughout the State are 26 County Agents, each agent being charged with the development of the agricultural interests of the county which he serves.

The work is conducted under the authorization of Section 3 of Chapter 10 of the Session Laws of Oregon for 1913. The appropriation for Extension work within a county made by a county having

an area of 5,000 square miles or less is duplicated up to \$2,000.00 by State funds. In counties of larger area, the maximum duplication by State funds is \$4,000.00. The provisions of the Oregon law place the County Agent work under the direct supervision of the Oregon Agricultural College.

The County Agent is the representative of the United States Department of Agriculture, the State Agricultural College, and the county in which he is located. Through a union of these forces and working with a county organization he is able to bring the fullest measure of practical and scientific knowledge to the solution of the agricultural problems of the county and to the improvement of country life conditions.

Counties not provided with county agents and interested in securing them should correspond with the Director of Extension Service or the State Leader of County Agents, who will render every assistance possible in explaining the plan and methods of work and necessary steps to be taken in establishing it.

HOME ECONOMICS

Extension work in Home Economics is organized, correlated, and conducted by means of public demonstrations, home demonstrations, conferences, lectures, publicity, correspondence, and otherwise, for the purpose of:

- (1) Giving assistance to women with problems concerning foods, fabrics, household management, housing, and home industries.

- (2) Securing adoption of approved household practices, organization, and administration.

- (3) Increasing knowledge of hygiene and of home and community sanitation.

- (4) Promoting the most wholesome and satisfactory living conditions.

Five counties in the State now have Home Demonstration Agents who work with the women and coordinate and apply the results of the work of the several departments of the Oregon Agricultural College, of the United States Department of Agriculture, and of other research institutions, in helping to solve the problems affecting homes and communities. This work is coordinated with other extension activities in a county through the county farm bureau. Two field Home Demonstration Agents give assistance to the county Home Demonstration Agents in the clothing and nutrition projects, working through Extension Schools and the Farm Bureau in counties where there are no Home Demonstration Agents.

A State Leader is in charge of this branch of the Extension Service.

BOYS' AND GIRLS' CLUB WORK

Junior Extension activities of the Oregon Agricultural College take the form of Club work consisting of demonstrations and judging contests among the boys and girls. Those who are interested in the basic farm and home enterprises, such as the growing of plants, the raising of animals, or the work in home economics, are encouraged to enroll for one or more Club projects.

The Club projects which consist of definite work to be done at home are as follows: Corn Growing, Potato Growing, Vegetable Gardening, Poultry Raising, Pork Production, Sheep Raising, Calf Raising, Dairy Herd Record Keeping, Sewing, Cookery, Homemaking, Canning, Rabbit Raising, Rural Home Beautification, and Milk Goat Raising, fifteen projects in all.

This work is organized by Clubs representing each of the above projects, being coordinated with other lines of Extension activity, including County Agricultural Agent and Home Demonstration Agent work, and cooperates with the County School Superintendent in each county and the Executive Committee of Farm Bureaus of counties having bureaus.

The bulletins and circulars containing the lessons and instructions for each project are prepared by the Oregon Agricultural College and the United States Department of Agriculture and mailed to the local Club leader of each Club.

Help on organization, follow-up work, and training of demonstration and judging teams is given the local Club leaders by the State Leader and assistants, the County Club Leader, the County Agricultural Agent, the Home Demonstration Agent, county school superintendent, and rural school supervisor.

Prizes are offered to the winners in Club projects and contests at the local, county, State, and Interstate Club festivals and fairs. The Club members are made to see, however, that the most worthwhile prizes are the knowledge, skill, and profit that each one may derive from the work.

Club work in Oregon is maintained and supervised by the Oregon Agricultural College Extension Service in cooperation with the United States Department of Agriculture and the State Department of Education. The activities of all these agencies are led by the State Leader of Club work.

SPECIAL FIELD DEPARTMENTS

ANIMAL HUSBANDRY

Extension Animal Husbandry takes up all problems connected with the improvement of beef cattle, horses, swine, sheep, and

goats. The slogan is, "Better breeding and more efficient feeding." Information is gathered from many sources and distributed throughout the State. The Extension work in animal husbandry is being much strengthened through the rapid accumulation of valuable livestock data by the Experiment Station at Corvallis and by the Eastern Oregon Branch Experiment Station at Union. The great diversity of conditions in various parts of the State is given due consideration and the work planned to fit the particular locality where given.

DAIRYING

Extension Dairying carries throughout the State, and helps to put into effective use, information regarding all branches of the dairy industry, such as the care and management of the herd, the raising of the calf, the treatment of diseases, the care of milk and cream, and the manufacture of dairy products. Emphasis and aid are given toward effecting dairy cooperative organizations such as Cow Testing Associations, Breeders' Associations, Bull Associations, Farmers' Cooperative Creameries, Farmers' Cooperative Cheese Factories, and Farmers' Cooperative Cream Selling Agencies.

DRAINAGE AND IRRIGATION

Drainage work includes soil management subsequent to installing drains as well as drainage construction work. Assistance is given in planning drainage systems as well as thorough personal demonstration in the laying out of drainage systems for individuals and communities. Information is given through lectures, extension schools, personal conference, and correspondence. Assistance and advice are also given in the organization of feasible drainage districts.

Irrigation is concerned with economic use of water, handling of soils and crops under irrigation, removal of alkali by drainage, and like matters. Assistance is rendered in this work as outlined above under drainage. Design of farm distribution systems and individual pumping plants and organization of irrigation districts where feasible are among the activities of this department.

ENTOMOLOGY, PLANT PATHOLOGY, BACTERIOLOGY

The Extension Service in the several sciences covered includes personal conferences and information, lectures, demonstrations, correspondence, and reports.

In entomology particular attention is given to the control of orchard and garden insect pests, field-crop pests, stored-product insects, and to apiculture. Onion smut problems, cereal smut, its

control and prevention, grain rusts, and general disease identification, control and eradication of all classes of poisonous plants are given consideration by the plant pathologists. Special assistance is rendered through the department of Bacteriology in the preparation and distribution of legume bacteria, through control of serious contagious disease both human and animal, and in conjunction with State departments in determining milk supply contamination and control.

Other departments render similar service along their particular lines.

FARM CROPS

Farm Crops Extension work covers the bulk handling of grain, the grading and classification of grain, potatoes, hay, etc., the selection of land for cropping purposes, the preparation of soil, seed selection, planting, culture, harvest, and storage methods for grain, potatoes, beans, peas, corn, flax, and other crops and forage plants, as well as potato certification, seed inspection, crop rotation, and special crop problems. This service is given through personal advisory conferences, special demonstrations, lectures, institutes, bulletins, correspondence, and extension schools.

FARM MANAGEMENT DEMONSTRATIONS

The purpose of the department of Farm Management Demonstrations is to demonstrate to farmers, in connection with their own farms, a practical and efficient method of summarizing and analyzing a farm business as a means of measuring the profit or loss incurred in conducting it and of deciding upon readjustments that promise to increase its net income.

In a management demonstration the business of each farm in a community is analyzed from an economic standpoint and then compared with the others to determine some of the changes which should be made in its organization to make it more profitable.

The Federal Income Tax makes necessary a more careful study of farm accounts and keeping of more accurate records. Special attention is given to meet this requirement through the farm record work and farm business analysis.

HORTICULTURE

Extension Horticulture covers the whole subject of orchard operations, including cultivation, pruning, spraying, thinning, harvesting, and marketing, and laying emphasis upon the vital question of reducing the cost of producing and handling fruits.

Small fruits and vegetables have their share of attention and the improvement of the surroundings of our farm homes is emphasized as a matter of great importance.

Improvement in the quality of the exhibits of county and community fairs, better arrangements of such exhibits, and a clearer and more uniform method of classification of exhibits is a subject that is given considerable attention.

Special attention is given to two series of projects or farm schools—one for pruning and one for spraying. This work contemplates having the operations of pruning and spraying, under field conditions, performed by members of the classes enrolled under the direction of the Extension Horticulturist.

POULTRY HUSBANDRY

Extension Poultry Husbandry covers all the branches of the poultry industry in a practical way as they apply to actual farm conditions in the State.

The work embraces such subjects as breeds and methods of breeding; feeds and methods of feeding; methods of housing and management of fowls for egg production and for market; hatching and rearing chickens; marketing of poultry and eggs. Particular attention is being given to the breeding of fowls for egg production.

Through cooperation with County Agents, special demonstrations in caponizing and in selecting and culling laying hens are made possible.

The general aim is to help the poultry raisers to produce better eggs and more of them at less cost.

RODENT CONTROL

Work in the control of rodent pests is conducted by the Oregon Agricultural College in cooperation with the Biological Survey of the United States Department of Agriculture. The 1919 Legislature appropriated \$5,000.00 to assist in this work for the biennium 1919-1920.

RURAL ORGANIZATION AND MARKETS

The Extension Service Bureau of Organization and Markets takes up the investigation and marketing problems which are confronting the farmers of the State. One man is in the field constantly, working with the farmers who are attempting, through organization, to better their conditions. Other members of the staff are sent out on definite organization projects, such as creamery and cheese factory organizations. It is the aim of this department

to help farmers' organizations to get started in such a way as to accomplish the most good with the least possible risk and outlay.

Systematic instruction is being carried on through extension lectures, press bulletins, and personal conference covering the whole field of marketing and rural credits.

EXTENSION SCHOOLS, LECTURES, AND CORRESPONDENCE COURSES

Extension Schools. Extension schools along definite project lines are organized in various sections of the State. These schools are arranged in such way that they may continue from year to year at the same points and yet not repeat the work previously given. The length of time spent at each place is dependent upon the subject-matter to be handled in each case.

Extension Lectures. Lectures are furnished local organizations upon request through County Agents and Home Demonstration Agents in territory occupied by these agents, or direct through the Extension Service in case there is no agent in the territory. In all lecture work it is desirable both as regards economy and efficiency to arrange the work in circuits.

Fair Judging and Exhibits. Judges are furnished fairs as far as this is possible with the limited staff available. Exhibits are made at a few large fairs.

All the work outlined above is arranged directly through County Agricultural Agents, Home Demonstration Agents, and other representatives of the Extension Service in the territory from which requests are received.

Correspondence Courses. The aim of the Extension Service of the Oregon Agricultural College in offering correspondence courses is to reach those who cannot be reached otherwise, and who are seeking special information along such lines of work as can be taught through correspondence.

It is assumed in the courses offered that the student has only a general acquaintance with the subject pursued and that he desires a practical working knowledge of it. Subjects, therefore, are presented in simple and direct language.

Students may begin correspondence courses at any time during the year. No preliminary examination is required for enrollment. During the fiscal year 1920-21 instruction by correspondence will be limited to the following courses given by the School of Commerce: (1) Farm Accounting. (2) Rural Law. (3) Rural Economics.

CATALOGUE OF DEGREES, HONORS, FACULTY, STUDENTS, AND ENROLLMENT

DEGREES CONFERRED JUNE 8, 1920

MASTER OF SCIENCE DEGREES

AGRICULTURE

James Carscallen Bell,
Corvallis, Benton
Palmer Patton,
Corvallis, Benton

Eugenia Hazel Somers,
Corvallis, Benton
Sanjhi Ram Varma,
Batala, India

HOME ECONOMICS

Mary Vernon Skelton,
Corvallis, Benton

BACHELOR OF SCIENCE DEGREES

AGRICULTURE

Gurnsey Harlan Abbott,
Parma, Idaho
Albert Absher,
Portland, Multnomah
George Maxfield Alexander,
Salem, Marion
Harry James Alexander
Chehalis, Washington State
Marcos Alicante,
Iloilo, Philippines
Archie Anderson,
Ashland, Jackson
Harold Evan Ball,
National City, California
Glenn Banta,
Corvallis, Benton
Paul Cooper Barker,
Reno, Nevada
James Ralph Beck,
Corvallis, Benton
Leigh Howard Churchill,
Corvallis, Benton
*Earl Alphonse Coe,
Portland, Multnomah
William McKinley Cory,
Etna Mills, California
Earle Wesley Dallas,
Corvallis, Benton
Edward Ralph Ding,
Portland, Multnomah
Zed Dorris,
Portland, Multnomah
Lee Lawrence Durham,
Hemet, California

Elias Jackson Edwards,
Buck Fork, Douglas
William Eilertsen,
Clatskanie, Columbia
Hurley Fellows,
Oregon City, Clackamas
Homer Robert Fleming,
Joseph, Wallowa
Byron Starr Foreman,
Tacoma, Washington State
Bernie Edward Gleason,
Jericho, Vermont
Spurgeon Sanford Gossman,
Lodgepole, South Dakota
Jack Holmes Grafton,
Chehalis, Washington State
George Jay Hall, Jr.,
Cottage Grove, Lane
Thomas Booth Holker,
Toston, Montana
Florence Holmes,
Portland, Multnomah
Harry Dale Howard,
McMinnville, Yamhill
Edwin Russell Jackman,
The Dalles, Wasco
George Leroy Jessup,
Winlock, Washington State
Mildred Lewis Johnson,
St. Paul, Minnesota
Eugene John Keller
Newberg, Yamhill
Cris Milton Krause,
Long Beach, California

*Degree granted at end of Summer Session, 1919.

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| Neely Samuel Lance, Corvallis, Benton | Arthur Mills Roseman, Dayton, Yamhill |
| Raymond Gilbert Larson, Fairfield, Iowa | Sajjan Sarna, Rawal Pindi City, India |
| Charles Roy Loop, McMinnville, Yamhill | Clarence Sebo, Silverton, Marion |
| Merle John Loosley, Fort Klamath, Klamath | Wallace William Smith, Corvallis, Benton |
| Allan Wallace McComb, Klamath Falls, Klamath | James Llewellyn Spriggs, Portland, Multnomah |
| George McGilchrist, Salem, Marion | John Lloyd Stelling, San Jose, California |
| Clifford Pennell Meacham, Weiser, Idaho | Claude Steusloff, Salem, Marion |
| Lloyd Paul Mitchell, Boise, Idaho | William Leroy Teutsch, Nyssa, Malheur |
| Alejandro Monsalve Mondragon Bolivar, South America | Marvin Thomas, Alhambra, California |
| Ralph Lester Morgan, Corvallis, Benton | Seymour Thomas, Alhambra, California |
| Rudolph Isador Nichols, Wenatchee, Washington State | Arthur Tilton, Portland, Multnomah |
| *Winfield Leonard Norton, Coquille, Coos | Claude Alonzo Tyrrel, Alhambra, California |
| Alan Berthold Parker, Pasadena, California | Robert Henry Watt, Bay City, Tillamook |
| Oscar Ingal Paulson, Corvallis, Benton | Richard Merle Weber, The Dalles, Wasco |
| Wilmer Dwight Powell, Monmouth, Polk | Harold White, Kerby, Josephine |
| John McKinley Pugh, Shedd, Linn | Charles Walter Williams, Corvallis, Benton |
| Earl Childers Reynolds, La Grande, Union | Ralph Willoughby, Harrisburg, Linn |
| Paul Eugene Richter, Oak Grove, Clackamas | Robert John Wood, Sumner, Washington State |
| Douglas William Ritchie, Corvallis, Benton | Paul Young, Eugene, Lane |

FORESTRY

| | |
|---|---|
| Andrew Francis Brennan, Boise, Idaho | Donald Navarre Matthews, Salem, Marion |
| Earl George Mason, Salem, Marion | Peng Fei Shen, Canton, China |
| Earl Vasberg Storm Ephraim, Utah | |

HOME ECONOMICS

| | |
|---|--|
| Ethel Marjorie Alexander, Salem, Marion | Erma Elizabeth Beals, Corvallis, Benton |
| Ellen Caroline Anderson, Portland, Multnomah | Mary Anderson Binns, Corvallis, Benton |
| Abby Andrews, Corvallis, Benton | Pearl Rawson Bradley, Milton, Umatilla |
| Dorothy Crosfield Ariss, Portland, Multnomah | Elsie Braun, Portland, Multnomah |
| Katherine Asbahr, Hillsboro, Washington | Ruth Brewer, Chemawa, Marion |
| Alice Lillian Atwood, Corvallis, Benton | Irene Anna Brye, Auburn, California |

*Degree granted at end of Summer Session, 1919.

| | |
|--|--|
| Florence De Ette Burnap, Corvallis, Benton | Verna Mildred Keppinger, Gervais, Marion |
| Amelia Burns, Spokane, Washington State | *Everette Ellenor Kingsley, Hermiston, Umatilla |
| Zetta Zeretta Bush, Hoskins, Benton | Rena Cornelia La Tourrette, Phoenix, Arizona |
| Mildred Carlyle, Forest Grove, Washington | Gladys Lenox, Klamath Falls, Klamath |
| Deirdre Carnes, North Powder, Union | Edith McOnie Lindsay, Corvallis, Benton |
| Lulu Marle Christiansen, Havre, Montana | Myrtle Harriet Linville, Astoria, Clatsop |
| Victoria Cohill, Portland, Multnomah | *Elithe Loughary, Monmouth, Polk |
| Olive Colpitts, Portland, Multnomah | Edith Mae Lowry, Bellingham, Washington State |
| Margaret Covell, Corvallis, Benton | Allie McDonald, Newberg, Yamhill |
| Irene Lillian Curtis, Salem, Marion | Emily Cassandra Martin, Corvallis, Benton |
| Lois Grace Davis, Myrtle Creek, Douglas | Marie Mendenhall, Everett, Washington State |
| Lois Dorn, Pasadena, California | *Grace Elizabeth Mitchell, Medford, Jackson |
| Eva Dunning, Stanfield, Umatilla | Genevieve Moore, Corvallis, Benton |
| Thelma Dykes, Portland, Multnomah | Margaret Myrtle Morcom, Corvallis, Benton |
| *Frances Eaton, Riverside, California | Minnie Etta Morcom, Corvallis, Benton |
| Norma Elizabeth Eriksen, Orland, California | Frances Marian Morley, Silverton, Marion |
| Alice Elizabeth Ferguson, Walla Walla, Washington State | Martha Opedal, Silverton, Marion |
| Rita Belle Fletcher, Salem, Marion | *Ruth Margaret Muller, Eugene, Lane |
| Elaine Ewell Forrey, Portland, Multnomah | Ruth Erickson Peaslee, Oswego, Clackamas |
| Lola Freeman, Central Point, Jackson | Evangeline Collins Poley, Ashland, Jackson |
| Vera Magdelin Funk, Corvallis, Benton | Verne Powers, Los Angeles, California |
| Helen Corinna Gardner, Portland, Multnomah | Elise Groves Price, Sifton, Washington State |
| Lois Reta Hathaway, Corvallis, Benton | Gladys Opal Reynolds, Independence, Polk |
| Francelle Hawley, McCoy, Polk | Lucile Ross, Eugene, Lane |
| Imojean Holroyd, Corvallis, Benton | Helen Lenore Scea, Milton, Umatilla |
| Gladys Louise Horning, Corvallis, Benton | Marjorie Laura Schutt, Chicago, Illinois |
| Gladys Georgene Hutchins, Portland, Multnomah | Louise Aileen Siler, Randle, Washington State |
| Edith Ireland, Portland, Multnomah | Lenore Dell Sinks, Gresham, Multnomah |
| Hazel Alverda Kelsey, Columbia City, Indiana | Grace Elizabeth Smith, Portland, Multnomah |
| Ruth Henrietta Kennedy, Corvallis, Benton | Ruth Esther Steele, Creswell, Lane |

*Degree granted at end of Summer Session, 1919.

Ruth Carson Stewart,
Athena, Umatilla
Ruth Stewart,
Portland, Multnomah
Etta Lorene Stimpson,
Corvallis, Benton
Hazel Jean Strief,
Portland, Multnomah
Lelia Bertha Stutz,
Corvallis, Benton
Margaret Todd,
Lebanon, Linn

*Stella Nora Wilson, Portland, Multnomah

*Hazel Holt Triska,
Burns, Harney
Lillian Alice Ward,
Portland, Multnomah
Mabel Blanche Waterman,
Corvallis, Benton
Marion Lou West,
Portland, Multnomah
Eva May Wheeler,
Tillamook, Tillamook
Loma Emma Williamson,
Corvallis, Benton

LOGGING ENGINEERING

George John Alstadt,
Portland, Multnomah
Joseph Folger Holmes,
Oakland, California

Lloyd Clifford Regnell,
Hood River, Hood River
Robert Stanley Smilie,
Sunburst, North Carolina

CIVIL ENGINEERING

Orin Dadmun,
Independence, Polk
Robert Allen McClanathan,
Astoria, Clatsop

Errol Alexander Murhard,
Portland, Multnomah
Harold Bruce Schminky,
Portland, Multnomah

ELECTRICAL ENGINEERING

Otto Lamar Cantrall,
Ruch, Jackson
Willis Lathrop,
Portland, Multnomah
Allen Monroe Manning,
Vancouver, Washington State
James Dalgety Moberg,
Astoria, Clatsop

Ernest Morrison,
Roseburg, Douglas
Frederick Austin Roehrig,
Pasadena, California
Francis Yoneichi Yamamoto,
Snoqualmie Falls, Washington
State

INDUSTRIAL ARTS

John Willis Boggess,
Veneta, Lane
*Frederick Monroe Groshong,
Portland, Multnomah
Oscar William James,
Corvallis, Benton
Glenn Lukens,
Redwood Falls, Minnesota

*Ambrose Reuben Nichols,
Corvallis, Benton
Blueford Barton Rearden,
Corvallis, Benton
*Harold Turner,
Eugene, Lane
James Fenix Vestal,
Eagle Point, Jackson

MECHANICAL ENGINEERING

Gail Elliott Spain,
Portland, Multnomah

Lewis Hamilton Tuthill,
Sutherlin, Douglas
Otis Estee Wilson, Corvallis, Benton

*Degree granted at end of Summer Session, 1919.

MINING ENGINEERING

| | |
|---|--|
| Byron Marshall Green, Pasadena, California | Henry Percy Holmes, Corvallis, Benton |
| Ellsworth Nelson Green, Pasadena, California | James Hyde, Portland, Multnomah |
| Roy Maybee Poole, Hillsboro, Washington | |

CHEMICAL ENGINEERING

| | |
|--|---|
| Walter Marion Bain, Portland, Multnomah | John Donald Jenkins, Los Angeles, California |
| John Cecil Chapman, Sheridan, Yamhill | Irving Allen Mather, Beaumont, California |
| Eugene Louis Freeland, Parkplace, Clackamas | Ray August Morris, Oregon City, Clackamas |
| Sigmund Caesar Schwarz, Portland, Multnomah | |

COMMERCE

| | |
|---|--|
| Cyrus Leslie Atwood, Corvallis, Benton | Loche Mardis, McMinnville, Yamhill |
| * Thomas Leroy Burns, White Salmon, Washington State | Maime Martens, Chinook, Montana |
| Cedric William Clark, Canyon City, Grant | Ivan Ray Metzler, North Bend, Coos |
| Doris Rowell Cowley, Central Point, Jackson | Marie Alma Prather, Corvallis, Benton |
| Helen Oaks Elkins, Prineville, Crook | John Henry Rearden, Corvallis, Benton |
| Ellen Marie Futterup, Vancouver, Washington State | Lynn Platt Sabin, Grants Pass, Josephine |
| Howard Stephens George, Lewiston, Idaho | Emil Edwin Seibert, Pendleton, Umatilla |
| Marguerite Gleeson, Beaverton, Washington | Wilbur Walter Shelton, Corvallis, Benton |
| Joe Finis Hackett, Corvallis, Benton | Charles Eldon Simpson, Airlie, Polk |
| Robert Kimzey, Prairie City, Grant | Elynore Dorothea Sweeney, Walla Walla, Washington State |
| George Henry Letellier, Jr., Mill City, Marion | Josephine Sophia Thompson, Seaside, Clatsop |
| Carl Douglas Long, Oakland, Douglas | Margerite Turner, Corvallis, Benton |
| Ethel Day Long, Caldwell, Idaho | Ozbun Garard Walker, Portland, Multnomah |
| Arthur Elmer McClain, Salem, Marion | Charles Hardy Waterfall, Vancouver, British Columbia |
| Bernard Mainwaring, Newberg, Yamhill | |

PHARMACY

| | |
|---|--|
| Walter Kipling Belt, Newport, Lincoln | Paul Willard Jewell, Corvallis, Benton |
| Collie Flint Cathey, Portland, Multnomah | Morrice Kaegi, Ashland, Jackson |
| Alfred Earle Douglas, Corvallis, Benton | Oral Miskell Lemmon, Salem, Marion |
| Eugene Erle Grubbe, Elkton, Douglas | James Albert Parcel, Berkeley, California |
| Orlin Le Roy Ireland, Baker, Baker | Vere Leslie Staats, Dallas, Polk |

Guy Staiger, Corvallis, Benton

*Degree granted at end of Summer Session, 1919.

OTHER DEGREES AND DIPLOMAS**GRADUATE IN PHARMACY**

| | |
|---|--|
| Walter Kipling Belt, Newport, Lincoln | Morrice Kaegi, Ashland, Jackson |
| Theodore Addison Black, The Dalles, Wasco | Lionel Clarence Kramien, Newberg, Yamhill |
| Alfred Earle Douglas, Corvallis, Benton | Oral Miskell Lemmon, Salem, Marion |
| Florence Martha Fish, Bandon, Coos | Eugene Thomas Moon, La Grande, Union |
| Wayne William Gordon, Caldwell, Idaho | David Edward Rackleff, Florence, Lane |
| Earl Alvin Graham, Corvallis, Benton | Josephine Lucille Resing, Portland, Multnomah |
| Eugene Erle Grubbe, Elkton, Douglas | Merle Josephine Root, Vancouver, Washington State |
| Virgil Hall Haller, Woodburn, Marion | Vere Leslie Staats, Dallas, Polk |
| Clifford Olcott Hatfield, Central Point, Jackson | Guy Staiger, Corvallis, Benton |
| Mary Vincent Holmes, Portland, Multnomah | Bertha Azora Straw, Woodburn, Marion |
| Orlin Le Roy Ireland, Baker, Baker | Marvin Alva Thomas, Junction City, Lane |
| Paul Willard Jewell, Corvallis, Benton | Stanley Aaron Thomson, Junction City, Lane |
| Lynn Calder Wright, La Grande, Union | |

PHARMACEUTICAL CHEMIST

| | |
|---|--|
| Francois Archibald Gilfillan, Delmar, Coos | Walter Winfield Parsons, Sherwood, Washington |
| Harold Stevenson, Halsey, Linn | |

HONORS AND PRIZES

SENIOR HONOR STUDENTS

Senior honors are conferred by the College Council upon those members of the graduating class who have maintained throughout their entire college course the highest scholastic standing in their department. No student is eligible to this honor unless his general average for all subjects has been eighty-five percent or higher. Election is limited to ten percent of the graduating members of a department.

Selections for June, 1920:

AGRICULTURE

Elias Edwards
Florence Holmes
Robert Watt
Hurley Fellows
Dale Howard
Spurgeon Gossman
James Spriggs

HOME ECONOMICS

Pearl Bradley
Francelle Hawley
Marie Mendenhall
Irene Brye
Ruth Kennedy
Ruth Peaslee
Olive Colpitts
Hazel Kelsey

CHEMICAL ENGINEERING

Sigmund Schwarz

MINING ENGINEERING

Ellsworth Green

COMMERCE

Bernard Mainwaring
Emil Seibert
Wilbur Shelton

PHARMACY

Walter Belt

ENGINEERING

Willis Lathrop
Lewis Tuthill

PRIZES

The Clara H. Waldo Prize of one hundred dollars is an award annually made in the proportions of forty, thirty, twenty, and ten dollars, respectively, to the woman of highest standing registered as a regular student in one of the degree curricula in the senior, junior, sophomore, and freshman year.

The A. J. Johnson Prize of one hundred forty dollars is an award to be made annually beginning with the year 1919-20 in the proportions of fifty, forty, thirty, and twenty dollars, respectively, to the man of highest standing registered as a regular student in one of the degree curricula in the senior, junior, sophomore, and freshman year.

In the distribution of these prizes, the committees having charge of the awards are guided in the following points:

- (a) Proficiency in scholarship.
- (b) Success in student activities.
- (c) Qualities of manhood or womanhood.
- (d) Qualities of leadership.

CLARA H. WALDO PRIZE

Senior

Helen Gardner

Sophomore

Alma Scharpf

Junior

Dorothea Abraham

Freshman

Ava Owen

The students in each class receiving second and third places, entitling to Honorable Mention, are:

Seniors

Irene Brye

Elise Price

Sophomores

Alice Feike

Helen King

Juniors

Frances Castner

Bernice Haines

Freshmen

Mary Bayne

Mary Holmes

A. J. JOHNSON PRIZE

Senior

Robert Watt

Sophomore

Benjamin Schumacher

Junior

Paul Scea

Freshman

Ransom Cook

The students in each class receiving second and third places, entitling to Honorable Mention, are:

Seniors

Emil Seibert

William Teutsch

Sophomores

Charles Daigh

John Gray

Juniors

Roy Keene

Charles Webber

Freshmen

Lyman Cooley

Augustus Hixon

THE J. H. ALBERT PRIZE

The J. H. Albert Prize of twenty-five dollars is an award annually made to the senior student who is adjudged by a joint committee of faculty and students to have made the greatest progress toward the ideal of character, service, and wholesome influence.

Robert Watt

THE J. M. DICKSON SCHOLARSHIP

The J. M. Dickson Scholarship of one hundred dollars, established by the estate of the late J. M. Dickson to commemorate his service to the dairy industry of the State and his faith in education as a factor in the development of agriculture, is awarded annually at the end of the junior year to the student majoring in Dairy Husbandry who in the opinion of the departmental staff excels in scholarship and initiative, and gives promise of attaining leadership in some phase of the dairy industry.

Alfred Walter Loy

ROSTER OF OFFICERS

Military Department, 1919-20

COMMANDANT OF CADETS

Major JOSEPH KEPNER PARTELLO, Infantry, U. S. Army

INFANTRY UNIT

Regimental Field and Staff

ALLAN W. MCCOMB, Colonel

ROBERT H. WATT, Lieutenant Colonel

GEORGE A. POWELL, Captain and Regimental Adjutant

BERNARD MAINWARING, Captain and Regimental Supply Officer

1st Battalion

EUGENE J. KELLER, Major

ARTHUR B. COCKRUM, 1st Lt. &
Bn. Adj.

2d Battalion

ROBERT A. MCCLANATHAN, Ma-
jor

GLENN E. SPRIGGS, 1st Lt. & Bn.
Adj.

Headquarters Company

ARTHUR E. MCCLAIN, Captain

Company "A"

LEE L. M. DURHAM, Captain

DONALD V. CONKLIN, 1st Lt.

WILLIAM T. EILERTSON, 2d Lt.

Company "B"

MERLE J. LOOSLEY, Captain

EARL C. REYNOLDS, 1st Lt.

MARVIN THOMAS, 2d Lt.

Company "C"

RICHARD M. WEBER, Captain

ROBERT F. KYLE, 1st Lt.

RALPH CAMPBELL, 2d Lt.

Company "D"

GEORGE MAX ALEXANDER, Cap-
tain

CHARLES J. RUSSELL, 1st Lt.

MAURICE C. KAEGI, 2d Lt.

Company "E"

JAMES L. SPRIGGS, Captain

MARION MCCART, 1st Lt.

GURNSEY ABBOTT, 2d Lt.

Company "F"

HARVEY B. SMITH, Captain

JOSEPH S. GLOMAN, 1st Lt.

JOHN E. EILERTSON, 2d Lt.

Company "G"

CHARLES M. TRUESDELL, Captain

CARL D. LONG, 1st Lt.

ARTHUR M. ROSEMAN, 2d Lt.

Company "H"

BYRON S. FOREMAN, Captain

ROBERT KIMSEY, 1st Lt.

WILBUR W. SHELTON, 2d Lt.

Miscellaneous

JOE F. HACKETT, Captain, Infantry Unit.

RAYMOND G. LARSON, Captain, Instructor in Machine Gun Work
(with Infantry Unit).

DOUGLAS W. RITCHIE, 1st Lt. Band (with Infantry Unit).

SIGMUND C. SCHWARZ, 2d Lt. Assistant Instructor in Signal Work
(with Infantry Unit).

FREDERICK A. ROEHRIG, 1st Lt. Signal Corps, Instructor in Radio
Wireless.

WARD M. ACKLEY, Captain Reserve Corps, Instructor in Machine
Gun.

EARL A. HUTCHINGS, 1st Lt. Reserve Corps, Instructor in Bayonet.

ENGINEER UNIT**Battalion Field and Staff**

OTTO L. CANTRALL, Major

ARTHUR A. CARLSON, 1st Lt. and Bn. Adjutant

Company "A"

LEWIS H. TUTHILL, Captain

GAIL E. SPAIN, 1st Lt.

HAROLD B. SCHMINKY, 2d Lt.

Company "B"

ORVAL M. BODLE, Captain

ELLSWORTH N. GREEN, 1st Lt.

JOSEPH F. HOLMES, 2d Lt.

Company "C"

WALTER M. BAIN, Captain

CHESTER E. CROWELL, 1st Lt.

BYRON MARSHALL GREEN, 2d Lt.

Miscellaneous

ALLEN M. MANNING, Major, Instructor in Eng. Unit (with Infantry
Unit).

MOTOR TRANSPORT CORPS UNIT**Battalion Field and Staff**

EMIL SEIBERT, Major.

KENNETH B. HALL, 1st Lt. and Battalion Adjutant.

Company "A"

MAURICE K. KNIGHT, Captain

FRANK EDWARD WILSON, Acting
1st Lt.

STEPHEN G. NYE, Acting 2d Lt.

Company "B"

ROBERT A. STAMM, Acting Cap-
tain

MERYL D. AGEE, Acting 1st Lt.

LESTON K. COON, Acting 2d Lt.

FIELD ARTILLERY UNIT

Battalion Field and Staff

STERLING W. SMITH, Major

GARTH L. YOUNG, Acting 1st Lt. and Battalion Adjutant

Battery "A"

CLAUDE F. PALMER, Acting Captain

ROBERT B. TAYLOR, Acting 1st Lt.

SMITH W. DOBSON, Acting 1st Lt.

HENRY G. WAGNER, Acting 2d Lt.

STEPHEN L. COX, Acting 2d Lt.

Battery "B"

REX B. DADDYSMAN, Acting Captain

BENJAMIN F. SCHUMACHER, Acting 1st Lt.

WALTER A. MARQUIS, Acting 1st Lt.

WILLIAM M. PERRY, Acting 2d Lt.

CLYDE B. WRIGHT, Acting 2d Lt.

Battery "C"

GEORGE A. JONES, Acting Captain

EUGENE P. WALTERS, Acting 1st Lt.

THOMAS J. MCCAIN, Acting 1st Lt.

ARTHUR F. ALLEN, Acting 2d Lt.

MERTON B. BRIGGS, Acting 2d Lt.

CATALOGUE OF FACULTY, 1919-1920

ABBREVIATIONS

| | |
|----------------------------|------------------------------------|
| A—Armory | HS—High School |
| AH—Apperson Hall | HP—Horticultural Products Building |
| Ad—Administration Building | L—Library Building |
| Ag—Agricultural Hall | M—Mines Building |
| CH—Cauthorn Hall | MA—Mechanic Arts Building |
| D—Dairy Building | MG—Men's Gymnasium |
| E—Engineering Laboratory | S—Science Hall |
| F—Forestry Building | SH—Shepard Hall |
| Fd—Foundry | V—Veterinary Building |
| FM—Farm Mechanics Building | WG—Women's Gymnasium |
| Gar—Garage | WH—Waldo Hall |
| H—Health Service Building | Y—"Y" Hut |
| HE—Home Economics Building | |

ALLEN, ETHEL, B.S., Assistant in Library (L 203)

* ALLEN, FREDERICK JOHN, B.S., H.E., Instructor in Chemistry.

ALLEN, LEONARD JOHN, M.S., State Leader, Livestock Clubs, Extension Service (Ag 127)

ANDERSON, WILLIAM BALLANTYNE, Ph.D., Professor of Physics (AH 22)

ATWOOD, WINFRED MCKENZIE, Ph.D., Associate Professor of Plant Physiology (Ag 230)

AVERILL, WILLIAM SAMUEL, B.S., Foreman in Farm Crops (Ag 206)

BACH, LOUIS, M.A., Professor of Modern Languages (M 207)

BAECHTOLD, ELSIE LOUISE, A.B., B.L.S., Reference Librarian (L 200)

BALDWIN, LOREN BURTON, A.M., Assistant Professor of English (D 201)

BARSS, HOWARD PHILLIPS, A.B., M.S., Professor of Botany and Plant Pathology; Chief in Botany and Plant Pathology, Experiment Station (Ag 235)

BALLARD, FRANK LLEWELLYN, B.S., Assistant County Agent Leader (Ag 130)

BATCHELLER, JAMES HERVEY, B.S., Associate Professor of Mining Engineering (M 204)

BEARD, HARRY LYNDEN, B.S., Assistant Professor of Mathematics; Director of Cadet Band (D 304)

BEATY, EDWARD BENJAMIN, B.S., M.A., Associate Professor of Mathematics (D 200)

BELKNAP, JOHN HARRISON, B.S., Assistant Professor of Electrical Engineering (MH 4)

BENNION, FRED, A.B., Agricultural Agent, Umatilla County

BERCHTOLD, FREDERICK, A.M., Professor of English Language and Literature (Ad 21)

BERNS, FREDERICK HENRY, Instructor in Art

BEXELL, JOHN ANDREW, A.M., Dean of the School of Commerce; Professor of Business Administration (Ag 222)

BILES, JESSIE, A.B., Assistant State Home Demonstration Agent Leader (Ag 124)

BILLIE, BREWER, B.S., Assistant Athletic Coach (MG)

BOALS, RAY B., B.S., Assistant Professor of Mechanical Engineering (MH 21)

BOUQUET, ARTHUR GEORGE, B.S., Professor of Vegetable Gardening; Vegetable Gardening Specialist, Experiment Station (Ag 135)

BOVEE, MARY ISABELLE, Assistant Professor of Physical Education for Women (WG 203)

BRANDON, HENRY CLAY, A.M., Professor of Industrial Arts; Director of Shops (MA 20)

* On leave of absence.

- BRANDT, ALVA ESOMOND, B.S., Instructor in Farm Mechanics (D 204)
- BRANDT, PHILIP MARTIN, B.S., A.M., Professor of Dairy Husbandry; Chief in Dairy Husbandry, Experiment Station (D 204)
- BREITHAUPT, LEROY, B.S., Agricultural Agent, Malheur County
- BROWN, GORDON GEORGE, B.S., Horticulturist Hood River Branch Experiment Station, Hood River
- BROWN, WALTER SHELDON, A.B., M.S., Professor of Horticulture; Chief in Horticulture, Experiment Station (Ag 134)
- BRUMBAUGH, JESSE FRANKLIN, LL.B., A.M., Professor of Psychology (F 203)
- BULLIS, DE LOSS EVERETT, B.S., Assistant in Agricultural Chemistry (F 210)
- BURNAP, MYRTLE, B.S., Secretary to the Dean of Mines (M 100)
- BURNS, LILLIAN, B.S., Instructor in Stenography (Ag 303)
- CADY, HARRY PALMER, B.S., Instructor in Electrical Engineering
- CALKINS, CLAUDE CLARK, B.S., Agricultural Agent, Sherman County
- CALKINS, ETHEL IRENE, Club Leader, Multnomah County
- CALLAHAN, IDA BURNETT, B.S., Associate Professor of English Language and Literature (Ad 20)
- CARPENTER, PAUL, Agricultural Agent, Polk County
- CATE, CLAUDE CLIFTON, B.S., Agricultural Agent, Jackson County
- CHAMBERLIN, WILLARD JOSEPH, B.S., Assistant Professor of Entomology; Forest Entomologist (Ag 312)
- CHAPPELL, VINCENT DICK, M.S., Assistant Professor of Dairy Husbandry (D 115)
- CHILDS, LE ROY, B.S., Entomologist, Hood River Branch Experiment Station, Hood River
- COCKS, EDNA AGNES, A.M., Professor of Physical Education for Women (WG 202)
- COLMAN, HOWARD NOTSON, A.B., B.Sc., Instructor in Dairy Husbandry
- COLEMAN, RALPH, B.S., Instructor in Physical Education for Men (MG)
- COMISH, NEWEL HOWLAND, M.S., Professor of Economics (Ag 224)
- COOK, MARGARET FARQUHAR, Extension Secretary (Ag 128)
- COOTER, JOHN EDWARD, B.S., Agricultural Agent, Lincoln County
- COPSON, GORDON VERNON, M.S., Professor of Bacteriology (Ag 410)
- CORBETT, RUTH LYLLEN, B.S., Home Demonstration Agent, Josephine County
- CORDLEY, ARTHUR BURTON, D.Sc., Dean of the School of Agriculture (Ag 112)
- COSBY, HERBERT E., Instructor in Poultry Husbandry, Extension Service
- COVELL, GRANT ADELBERT, M.E., Dean of the School of Engineering and Mechanic Arts; Professor of Mechanical Engineering (MA 1)
- COWGILL, HELEN JULIA, B.S., Assistant State Leader of Industrial Clubs, Extension Service (Ag 127)
- CRETCHER, WARD, B.S., Instructor in Soils (Ag 110)
- CRUISE, WINNONA, M.A., Instructor in Household Science (HE 103)
- DAHLBERG, HATTY ROSELLE, M.S., Associate Professor of Home Economics Education (HE 100)
- DAVIS, BERTHA, M.S., Associate Professor of Home Economics Education (HE 100)
- DAVIS, HELEN LEE, A.B., B.S., Professor of Household Art (HE 307)
- DEAN, HAROLD KARL, B.S., Superintendent Umatilla Branch Experiment Station, Hermiston
- DEARBORN, RICHARD HAROLD, A.B., M.E., Professor of Electrical Engineering (AH 1)
- DEPPERMAN, LEM RAYMOND, Instructor in Mechanical Engineering
- DINGER, VIOLA, Instructor in Mathematics
- * DOBELL, LILA GRACE, P.S., Assistant in Library (L 207)
- DOLAN, SAMUEL MICHAEL PATRICK, C.E., Associate Professor of Civil Engineering (AH 25)

- DOXSEE, EARL DEWITT, B.S., Instructor in Agricultural Education (F 206)
 DRESEN, WILLIAM HENRY, Ph. D., Assistant Professor of Economics and Sociology (Ag 224)
 DRYDEN, JAMES, Professor of Poultry Husbandry; Chief in Poultry Husbandry, Experiment Station (F 212)
 DUBACH, ULYSSES GRANT, Ph.D., Professor of Government and Business Law (Ag 200)
 DUBUIS, JOHN, C.E., Assistant Professor of Civil Engineering
 DUNKELBERGER, GUSTAV, M.B., Instructor in Piano (Ad 35)
 DUFFY, EDWARD MICHAEL, Manager of Business Office (Ad 5)
- ELLSWORTH, LEWIS, Sergeant, Infantry, U. S. Army, Assistant to Professor of Military Science and Tactics (A)
 ENGBRETSON, ALBERT EDWARD, B.S., Superintendent John Jacob Astor Branch Experiment Station, Astoria
 ENGLISH, PENNOYER FRANCIS, B.S., Teaching Fellow in Zoology (Ag 325)
- FARR, CHESTER CARROLL, B.S., Agricultural Agent, Coos County
 FAWCETT, MARY ELIZA, A.M., Dean of Women (L 306)
 FEIKE, ZELTA FERN, B.S., Secretary to the Dean of Home Economics (HE 109)
 FITTS, EDWARD BLODGETT, Professor of Dairy Extension (D 203)
 FLIPPIN, THOMAS JOSEPH, B.S., Agricultural Agent, Columbia County
 FOLEY, JAMES, B.S., Teaching Fellow in Zoology and Physiology (Ag 322)
 FRITCHOFF, ALMA CATHERINE, A.B., Instructor in Household Art (HE 300)
 FULTON, JOHN, M.S., Professor of General Chemistry; Director of Chemical Laboratories (S 216)
 FULTON, BENTLEY BALL, M.S., Assistant Professor of Entomology (Ag 316)
- GASKINS, GENEVIEVE BAUM, Instructor in Pipe-organ and Piano (Ad 32)
 GASKINS, WILLIAM FREDERIC, M.B., Professor of Music (Ad 30)
 GEORGE, LILLIAN MABEL, B.L.S., in charge Continuations Department, Library (L 201)
 GILBERT, EARL, M.S., Instructor in Chemistry (S 101)
 GILKEY, HELEN MARGARET, Ph.D., Assistant Professor of Botany, Curator of the Herbarium (Ag 328)
 GILMORE, WILLIAM JAMES, B.S.A.E., Professor of Farm Mechanics (FM)
 GLASS, RALPH RIGBY, Major, Infantry, U. S. Army, Assistant Professor of Military Science and Tactics
 GLENN, BURDETTE, B.S., Instructor in Civil Engineering
 GOLDMAN, OTTO BERGER, B.S., Professor of Heat Engineering (AH 21)
 GOODE, DELMER MORRISON, B.A., Assistant Editor of Publications (Ag 114)
 GORGENSEN, RICHARD, Corporal, Field Artillery, U. S. Army, Assistant Instructor in Field Artillery (A)
 GRAF, SAMUEL HERMAN, M.S., Professor of Mechanics and Materials (AH 5)
 GRANNING, MARTIN LOUIS, Instructor in Auto Mechanics (Gar)
 GRISSIN, CARL, Instructor in String Instruments; Director of College Orchestra (Ad 37)
 GUNN, REUBEN VEERIN, B.S., Farm Management Demonstrator, Extension Service (Ag 108)
- HADWEN, SIBYLLA, Housekeeper Women's Dormitories; Preceptress, Waldo Hall (WH 1)
 HAGUE, EDITH, A.B., B.L.S., Assistant in Continuations Department, Library (L 201)
 HAIGHT, KATHERINE BARBARA, Instructor in Home Nursing; Preceptress, Cauthorn Hall (HE 206)
 HALL, SYLVESTER BENJAMIN, B.S., Agricultural Agent, Multnomah County
 HALVERSEN, WILLIAM VERNAL, M.S., Assistant Professor of Bacteriology (Ag 408)
 HANFORD, EDWARD CORNELIUS, Major Field Artillery, U. S. Army; Assistant Field Artillery Unit (A 5)

- HARMON, ELLA MAY, B.S., Home Demonstration Agent, Umatilla County
HARSCH, JOHN JR., First Sergeant, Field Artillery, U. S. Army, Assistant to Professor of Military Science and Tactics (A)
HART, JOHN R., Sergeant, Field Artillery, U. S. Army, Assistant to Professor of Military Science and Tactics (A)
HARTMAN, HENRY, M.S., Assistant Professor of Horticulture (Ag 134)
HARTWELL, CUSHMAN, Major, Cavalry, U. S. Army, Assistant Professor of Military Science and Tactics; in charge Cavalry Unit
HARVEY, EDWARD MARIS, Ph.D., Research Professor of Horticulture (Ag 132)
HATCH, EDWIN A., Instructor in Auto Mechanics
HAYES, DENIS, Captain, Adjutant General's Department, Officers' Reserve Corps, U. S. Army, Assistant to Professor of Military Science and Tactics; Assistant to Supply Officer; (Regimental Sergeant Major, U. S. Army, Retired) (A 2)
HEATH, LAURA BELLE, B.S., Assistant in Department of Publications (Ag 114)
HELM, MCKINLEY, B.S., Instructor in English
HERSE, BERTHA, B.S., in charge Circulation Department, Library (L 207)
HILL, GLENN HARTMAN, Instructor in Machine Shops (MA 20)
HILTON, FRANK JOHN, First Sergeant, Field Artillery, U. S. Army; Assistant Instructor in Field Artillery (A)
HOBBS, ERNEST CHARLES, Superintendent of College Press (MA)
HODGE, WILLIAM, M.A., Assistant Professor of Organic Chemistry (S 309)
HOLGATE, HELEN LUCILE, B.S., in charge of College Exchange (Ag 111)
HORN, ELSA OTILIA, B.A., Instructor in Botany (Ag 234)
HORNER, JOHN B., A.M., Litt.D., Professor of History (M 205)
HUNT, LORENCE ALVA, Agricultural Agent, Morrow County
HUNTER, FRANK GEORGE, Regimental Supply Sergeant, Infantry, U. S. Army; Assistant Instructor in Military Science and Tactics (A)
HUNTER, MELISSA, A.B., Instructor in Household Science (HE 8)
HURD, CALVIN JEHU, Agricultural Agent, Douglas County
HYSLOP, GEORGE ROBERT, B.S., Professor of Farm Crops; Chief in Farm Crops, Experiment Station (Ag 205)
JACKMAN, EDWIN RUSSELL, B.S., Agricultural Agent, Wasco County
JACKSON, ELMER POLIC, B.S., Superintendent of Buildings (MA 4)
JAMISON, DWIGHT LYMAN, B.S., Agricultural Agent, Deschutes County
JAMISON, NEAL CLEMENT, B.S., Agricultural Agent, Washington County
JARDINE, JAMES TERTIUS, B.S., Director of the Experiment Station (Ag 312)
JENSEN, ANTON EVERETT, Instructor in Farm Mechanics (FM)
JENSEN, WILLIAM ARTHUR, Executive Secretary (Ad 1)
JOHNSON, ALMA GRACE, B.S., Professor of Household Administration (HE 206)
JOHNSON, CHARLES LESLIE, B.S., Professor of Mathematics (D 304)
JOHNSTON, WILLIAM WATERS, B.S., Field Agent in Soils (Ag 110)
JONES, ALBERT MONMOUTH, Captain, Infantry, U. S. Army, Assistant Professor of Military Science and Tactics (A 3)
JONES, ETHEL ANN, Instructor in General and Analytical Chemistry (S 301)
JONES, J. SHIRLEY, M.S., Professor of Agricultural Chemistry; Experiment Station Chemist (S 210)
JONES, ROY CARROL, B.S., Agricultural Agent, Tillamook County
KABLE, GEORGE WALLACE, B.S., Agricultural Agent, Benton County
KADDERLY, WALLACE LADUE, B.S., Assistant County Agent Leader (Ag 130)
KALBUS, MINNIE, B.S., Home Demonstration Agent, Coos County
KEISER, LURA AMELIA, B.S., Instructor in Home Economics Education; Critic Teacher (HE 100)
KELLEY, HAROLD, B.S., Instructor in Agricultural Chemistry (S 202)
KENT, FREDERICK CHARLES, A.B., Associate Professor of Mathematics (D 304)
KIRKPATRICK, THOMAS DEFOREST, L.B., Club Leader, City of Portland
KERR, WILLIAM JASPER, D.Sc., President of the College (Ad 1)

- KNOWLES, FRANK ELWOOD, M.A., Instructor in Physics (AH 22)
- KNOWLTON, FRANK LESTER, B.S., Research Assistant in Poultry Husbandry (F)
- KOCKEN, WALTER, B.S.A., Orchard Foreman
- KOOPMAN, MINNIE, Instructor in Office Training (Ag 304)
- LANE, LASSIE, Home Demonstration Agent-at-Large (Ag 124)
- LATHROP, FRANK HEIDTMAN, B.S., A.B., Associate Professor of Entomology (Ag 316)
- LAWRENCE, WILLIAM EVANS, B.S., Associate Professor of Plant Ecology (Ag 273)
- LECHNER, HERWEGH JOSEPH, B.S., Agricultural Agent, Clatsop County
- LEMON, ERWIN BERTRAN, B.S., Associate Professor of Accounting (Ag 300)
- LEWIS, LUCY, A.B., B.L.S., Librarian (L 200)
- LEWIS, SARAH LOUISE, M.S., Professor of Household Science (HE 207)
- LOVETT, LESTER, B.S., Professor of Entomology; Chief in Entomology, Experiment Station (Ag 314)
- LUNN, ALFRED GUNN, B.S., Professor of Poultry Husbandry
- MCCOMB, JESSIE DUNLAVEY, M.S., State Leader Home Demonstration Agents (Ag 124)
- MCDANIELS, LEWIS EDWARD, Agricultural Agent, Harney County
- * MCELFRESH, GERTRUDE EWING, A.B., Instructor in English
- McFARLAND, KATHERINE, Instructor in Household Science; Assistant Housekeeper, Dormitories (WH)
- McFAUL, HELEN, B.A., Instructor in Household Art (HE 300)
- McINTOSH, CHARLES JARVIS, B.S., Assistant Professor of Industrial Journalism; Agricultural Press Editor (Ad 11)
- McKAY, MARION BERTICE, M.S., Assistant Plant Pathologist, Experiment Station (Ag 233)
- McLOUTH, FARLEY DOTY, B.S., Professor of Art (Ag 402)
- McMILLAN, FRED ORVILLE, M.S., Assistant Professor of Electrical Engineering
- MACPHERSON, HECTOR, Ph.D., Professor of Economics and Sociology; Director of the Bureau of Organization and Markets (Ag 224)
- McWILLIAMS, HERSCHEL BRIAN, Ph.C., B.S., Assistant Professor of Pharmacy (S 409)
- MAGINNIS, ETHA MABEL, Assistant Professor of Office Training (Ag 305)
- MAGRUDER, FRANK ABBOTT, Ph.D., Associate Professor of Government and Business Law (Ag 200)
- MARDIS, LOCHE, B.S., Instructor in Accounting (Ag)
- MASON, EARL GEORGE, B.S., Instructor in Forestry
- MARIS, PAUL VESTAL, B.S., Director of Extension Service; State Leader County Agents (Ag 129)
- MARKER, ALBERT WASHINGTON, A.B., Instructor in Physics
- MARTENS, MAIME, B.S., Instructor in Mathematics
- MARTIN, MELISSA MARGARET, A.E., B.S., Instructor in Modern Languages (M)
- MAY, LULA LITTEN, B.S., Instructor in Household Art (HE 306)
- MEHL, PAUL, M.S., Agent in Marketing, Extension Service (Ag 224)
- MEREEN, DONALD KENNETH, Instructor in Industrial Arts (MA 20)
- MILAM, AVA BERTHA, Ph.B., A.M., Dean of the School of Home Economics (HE 107)
- MILLER, FREDERICK WILHELM, D.V.M., Instructor in Veterinary Medicine (D 207)
- MILLER, HARRY GEORGE, M.S., Associate Professor of Agricultural Chemistry Research, Experiment Station (S 210)
- MILLER, ROY EDMUND, M.S., Agricultural Agent, Josephine County
- MOELLER, OTTO, First Lieutenant, Engineer Officers' Reserve Corps, U. S. Army, Assistant to Professor of Military Science and Tactics; Master Engineer, Senior Grade, Corps of Engineers, U. S. Army (A)
- MONK, ARDIS THOMAS, B.S., Instructor in Physics, (AH 22)

* On leave of absence.

- MOREHOUSE, MARGARET, B.S., Instructor in Household Art (HE 306)
- MURNEEK, ANDREW EDWARD, M.S., Research Assistant in Horticulture (Ag 132)
- MYERS, FRANCIS PARKER, B.S., Instructor in Mechanical Engineering (F)
- NELSON, ORAN MILTON, B.S., Associate Professor of Animal Husbandry, Extension Service
- NEVIUS, JOHN RICHARD, B.S., Instructor in Farm Crops (Ag 209)
- NEWINS, HAROLD STEPHENSON, M.F., Professor of Economics (307)
- NEWLIN, CLAUDE MILTON, A.B., Instructor in English
- NEWTON, CHARLES EDWARD, E.M., Dean of the School of Mines (M 100)
- NICHOLS, AMBROSE REUBEN, B.S., Instructor in Industrial Education; Critic Teacher (F 205)
- NICHOLS, BENJAMIN HATCH, B.S., Instructor in Mechanical Engineering (F 205)
- OLIVER, ALFRED WEAVER, B.S., Instructor in Animal Husbandry (Ag 210)
- OLSON, NORMA, Home Demonstration Agent, Benton County
- OLSON, NORMA, Instructor in Expression and Dramatic Art (L 301)
- O'NEALE, LILA MORRIS, A.B., B.S., Assistant Professor of Household Art (HE 306)
- OSBORN, EARL B., D.V.M., Assistant Professor of Animal Husbandry
- OWENS, CHARLES ELMER, A.M., Associate Professor of Plant Pathology (Ag 234)
- PARTELLO, JOSEPH KEPNER, Lieutenant Colonel of Infantry, U. S. Army; Professor of Military Science and Tactics; Commandant of Cadets (A 1)
- PEAVY, GEORGE WILCOX, M.S.F., Dean of the School of Forestry (F 215)
- PECK, ARTHUR LEE, B.S., Professor of Landscape Gardening and Floriculture; Superintendent of Campus and Greenhouses (Ag 328)
- PETERSON, SIGURD HARLAN, B.A., Assistant Professor of English (L 105)
- PHILLIPS, MARK CLYDE, B.M.E., Associate Professor of Mechanical Engineering; Superintendent of Heating (Ag 326)
- PINE, WILLIAM DOUGLAS, B.S., Instructor in Dairy Husbandry (D 111)
- POOL, FLORENCE ELDORA, B.S., Home Demonstration Agent, Jackson County
- PORTER, WILLIAM MCCAULLY, Instructor in Forging (MA 12)
- POTTER, ERMINE LAWRENCE, B.S., Professor of Animal Husbandry; Chief in Animal Husbandry, Experiment Station (Ag 210)
- POWERS, WILBUR LOUIS, M.S., Professor of Soils; Chief in Soils, Experiment Station (Ag 110)
- PRENTISS, SARA WATT, B.S., Instructor in Household Science (HE 212)
- RANKIN, LOIS JOHNSON, Instructor in Physical Education for Women (WG)
- RAWSON, MERRILL OLIVER, Ph.C., B.S., Instructor in Pharmacy (S 409)
- REED, EDWIN THOMAS, B.S., A.B., College Editor (Ag 114)
- REEDER, JOHN CHARLES, B.S., Research Assistant in Agricultural Chemistry (S 218)
- REIMER, FRANK CHARLES, M.S., Superintendent Southern Oregon Branch Experiment Station, Talent
- RESSLER, EDWIN DEVORE, A.M., Dean of the School of Vocational Education; Professor of Education (F 200)
- RIDENOUR, AMBROSE ELLIOTT, B.S., Instructor in Foundry Practice (Fd)
- RITCHIE, ELIZABETH PROPHET, A.B., B.L.S., Cataloguer, Library (L)
- ROBERGE, JOSEPH ETIENNE, First Sergeant, Infantry, U. S. Army; Assistant to Professor of Military Science and Tactics (A)
- ROBINSON, FRANK L., Instructor in Accounting
- ROBINSON, MABLE, Secretary to the Dean of Commerce (Ag 220)
- ROBINSON, REGINALD HEBER, M.S., Associate Professor of Agricultural Chemistry Research, Experiment Station (S 210)
- RODENWALD, BENJAMIN WILLIAM, B.S., Assistant Professor of Animal Husbandry
- ROSE, JESSIE P., M.S., Assistant Plant Pathologist, Office of Cereal Investigations, U. S. Department of Agriculture (Ag 233)

- RUTH, CHARLES CURTIS, M.S., Assistant Professor of Farm Crops
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 RUZEK, CHARLES VLADIS, B.S.A., Professor of Soil Fertility; Associate Professor of Soils, Experiment Station (Ag 110)
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 SELBY, HALBERT EDGERTON, B.S., Instructor in Farm Management (Ag 108)
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 SIMMS, BENNETT THOMAS, D.V.M., Professor of Veterinary Medicine; Chief in Veterinary Medicine, Experiment Station (D 209)
 SIMS, STUART HOBBS, B.S. in C.E., Professor of Civil Engineering (AH 25)
 SKELTON, GODFREY VERNON, C.E., Professor of Highway Engineering (AH 27)
 SMART, WILLIAM ANDERSON, B.S., Research Assistant in Horticulture and Entomology (Ag 139)
 SMITH, DEXTER RALPH, B.S., Assistant Professor of Civil Engineering (MH 24)
 SMITH, EDWIN MONROE, Chief Clerk, Business Office (Ad 5)
 SMITH, M. ELWOOD, Ph.D., Dean of the Service Departments; Director of the Summer Session (L 301)
 SMITH, STANLEY VAN, B.S., Agricultural Agent, Linn County
 SMITH, VALDA EVELINE, A.B., Instructor in Chemistry (S 303)
 SNEDEKER, ROMNEY PEARLE, Club Leader, Clackamas County
 SNOW, FRANCIS LAWRENCE, Professor of Industrial Journalism (Ad 11)
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 SPILLMAN, PAUL HERMAN, B.S., Agricultural Agent, Union County
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 STAMPER, WILLSON YOUNG, JR., Captain, Corps of Engineers, Assistant Professor of Military Science and Tactics; in charge Engineer Unit (A 3)
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 STREET, ANDREW ERVIN, Club Leader, Douglas County

- STRICKLAND, GERTRUDE, Instructor in Household Art (HE)
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TAYLOR, ETHEL, A.B., Instructor in Modern Languages (M)
TAYLOR, LILLIAN CATHERINE, B.S., Instructor in Household Science (Ag 138)
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TENNANT, HAROLD MANLEY, Registrar (Ad 7)
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UPHOFF, ROBERT W., A.B., Instructor in Physics
VANCE, HERBERT TOWNSEND, Professor of Office Training (Ag 300)
VAN GROOS, JOHN ALBERT, M.S., Instructor in Mathematics (D 304)
VAN KIRK, MARY, Instructor in Household Art (HE 306)
VARNEY, GEORGE REUBEN, A.B., D.D., Instructor in Public Speaking (Ad 22)
WATERMAN, IVAN FREDERICK, B.S., Instructor in Mechanics and Materials (AH 25)
WELD, EMMA SKINNER, Ph.B., Instructor in Household Art (HE 3)
WENIGER, WILLIBALD, Ph.D., Professor of Physics
WENK, MORRIS, A.B., E. in E.E., Assistant Professor of Mechanical Engineering (L 101)
WHILLOCK, BERTHA ALICE, B.S., Instructor in Office Training (Ag 301)
WHITAKER, WILLIAM, B.S., Assistant in Bacteriology (Ag 408)
WIEGAND, ERNEST HERMAN, B.S., Assistant Professor of Horticultural Research (HP)
WIEMAN, JOHN SAMUEL, B.S., Research Fellow in Horticulture
WIGHT, HOWARD MARSHALL, M.S., Assistant Professor of Zoology and Physiology (Ag 225)
WILCOX, LYLE PORTER, B.S.A., Instructor in Horticulture (Ag 139)
WILKES, CLAIRE, B.S., Instructor in Farm Management (Ag 100)
WILTSHIRE, CHARLES GEORGE, Instructor in Plumbing and Steam Fitting (MA 20)
WING, LEON WALTON, B.S., M.A., Assistant Professor of Dairy Husbandry (D 202)
WININGER, RUTH, Instructor in Physical Education for Women (WG 102)
WITHYCOMBE, ROBERT, B.S., Superintendent Eastern Oregon Branch Experiment Station, Union
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WOOLMAN, HORACE M., Field Agent, Office of Cereal Investigations, U. S. Department of Agriculture (Ag 235)
WOOSTER, LAWRENCE FISHER, B.S.A., Associate Professor of Electricity (AH 1)
WORKINGER, CLYTIE MAY, Secretary to the Dean of Vocational Education (F 200)
ZELLER, SANFORD MYRON, Ph.D., Associate Professor of Research in Plant Pathology (Ag 233)
ZIEFLE, ADOLPH, Ph.C., M.S., Dean of the School of Pharmacy (S 409)

CATALOGUE OF STUDENTS

(The following abbreviations are used to indicate the curriculum in which the student is registered and the classification within the curriculum: Agri., Agriculture; C. E., Civil Engineering; Com., Commerce; H. E., Home Economics; E. E., Electrical Engineering; For., Forestry; Chem. E., Chemical Engineering; L. E., Logging Engineering; H. E., Highway Engineering; I. E., Irrigation Engineering; I. A., Industrial Arts; M. A. Mechanic Arts; M. E., Mechanical Engineering; Min., Mining Engineering; Phar., Pharmacy; Fr., Freshman; So., Sophomore; Jr., Junior; Sr., Senior; Vo., Vocational; Op., Optional; Sp., Special.)

GRADUATE STUDENTS

| <i>Name</i> | <i>Curriculum</i> | <i>Home Address</i> |
|--------------------------------|-------------------|---------------------|
| Allen, Frederick J. | Agri. | Corvallis |
| Ashuster, Carl Ephraim | Agri. | Corvallis |
| Belknap, John H. | Agri. | Corvallis |
| Bell, James Carscallen | Agri. | Kendall, Mont. |
| Bennett, William Edgar | Chem. | Portland |
| Billie, Brewer Astor | For. | Astoria |
| Breithaupt, Alva | Agri. | Corvallis |
| Chamberlin, Willard | Agri. | Corvallis |
| Christensen, Henry Noris | Agri. | Portland |
| Coleman, Ralph Orval | Agri. | Newport |
| Davidson, Robert Herschel | Agri. | Meridian, Idaho |
| Edington, Jesse Boyd | Agri. | Corvallis |
| Edwards, Elias Jackson | Agri. | Buck Fork |
| English, Penoyer | Agri. | Salem |
| Fitch, Helen Hawk | Agri. | Corvallis |
| Fitch, Frank B. | Agri. | Los Angeles, Cal. |
| Foley, James Owen | Agri. | Corvallis |
| Hollenberg, Leo | Agri. | Corning, Cal. |
| Horn, Elsa Ottelea | Agri. | St. Paul, Minn. |
| Howey, Iva May | H.E. | Corvallis |
| Johnston, William Waters | Agri. | Corvallis |
| Kocken, Walter Joseph | Agri. | Corvallis |
| Lynch, Harry | E.E. | Salem |
| Miller, Fred | Agri. | Corvallis |
| Oliver, Alfred W. | Agri. | Corvallis |
| Patton, Palmer | Agri. | Corvallis |
| Reber, Albert Roy | Agri. | Kansas City, Kans. |
| Reichart, Emanuel Henry | Agri. | Corvallis |
| Schuster, Carl Ephraim | Agri. | Corvallis |
| Selby, Halbert E. | Agri. | Corvallis |
| Shaw, James Niven | Agri. | Corvallis |
| Skelton, Mary Vernon | H.E. | Corvallis |
| Smart, William Anderson | Agri. | Corvallis |
| Somers, Eugenia Hazel | Agri. | Corvallis |
| Storz, Chas. W. | Agri. | Portland |
| Varma, Sanjhi R. | Agri. | India |
| Waite, Katherine | Phar. | Dixonville |
| Wieman, John Samuel | Agri. | Los Angeles, Cal. |
| Wight, Howard Marshall | Agri. | Corvallis |
| Wilcox, Lyle Porter | Agri. | Corvallis |
| Wilkes, Clair | Agri. | Corvallis |
| Wing, Leon Walton | Agri. | Joplin, Mo. |
| Young, John P. | Agri. | Eugene |

UNDERGRADUATE STUDENTS

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|-----------------------|
| Aalvik, Roy | M.E. | Fr. | Stevenson, Wash. |
| Abbott, Gilbert Wesley | E.E. | So. | Portland |
| Abbott, Ernest Victor | Agri. | So. | Ashland |
| Abbott, Fred LeRoy | C.E. | Sp. | Salem |
| Abbott, Gurnsey | Agri. | Sr. | Chenoa, Ill. |
| Abbott, Manley Joseph | E.E. | Fr. | Sumpter |
| Abegg, Fred Anton | Agri. | Sr. | Portland |
| Abraham, Dorothea | H.E. | Jr. | Roseburg |
| Abraham, Jno. Theodore | Phar. | Fr. | Roseburg |
| Abraham, Ray Leonard | Phar. | So. | Cherry Grove |
| Absher, Albert | Agri. | Sr. | Portland |
| Acheson, Evangeline | H.E. | So. | Chehalis, Wash. |
| Ackerman, Glenn Chester | Com. | Fr. | Salem |
| Ackley, Ward | M.E. | Vo. | Portland |
| Adams, Albert Lewis | M.A. | Vo. | Santa Cruz, Cal. |
| Adams, Arthur Clare | M.E. | Vo. | Portland |
| Adams, Floyd Nelson | Agri. | Jr. | Corvallis |
| Adams, James Arthur | M.E. | So. | St. Helens |
| Adams, Kenneth Sutton | C.E. | Fr. | Bisbee, Ariz. |
| Addy, Helen Frances | Com. | Fr. | Seattle, Wash. |
| Addisson, Raymond | Phar. | So. | The Dalles |
| Ady, Ada Dee | H.E. | Fr. | Merrill |
| Agee, Leta | H.E. | Jr. | Corvallis |
| Agee, Meryl Dwight | E.E. | Fr. | Corvallis |
| Ahlskog, Iver | E.E. | So. | Raymond, Wash. |
| Ahlson, Alete | H.E. | Jr. | Hillsdale |
| Aikins, Edward LeRoy | M.E. | Fr. | Riddle |
| Aikins, Elta Mae | H.E. | Jr. | Riddle |
| Albert, Arthur Lemuel | E.E. | Fr. | Jefferson |
| Albrecht, Andrew Carl | Com. | Fr. | Portland |
| Alcorn, William Vernon | C.E. | Jr. | Corvallis |
| Alderman, Dwight Edwin | M.A. | Vo. | Corvallis |
| Alderman, Urie Sampson | Agri. | Sp. | Dayton |
| Alexander, Clyde Murrell | Agri. | Vo. | Dalkena, Wash. |
| Alexander, Ethel Marjorie | H.E. | Sr. | Salem |
| Alexander, George Maxfield | Agri. | Sr. | Salem |
| Alexander, Harry James | Agri. | Sr. | Chehalis, Wash. |
| Alexander, John Billings | C.E. | Fr. | Corvallis |
| Alford, Eugene Edwin | Phar. | Fr. | La Grande |
| Alicante, Marcos Mondijar | Agri. | Sr. | Iloilo, P. I. |
| Allan, James William | M.E. | Fr. | Dundee |
| Allan, John Walter | For. | Fr. | Eugene |
| Allén, Arthur Francis | Com. | So. | Corvallis |
| Allen, Clyde Ernest | M.E. | Vo. | Portland |
| Allen, Davis John | Agri. | Vo. | Corvallis |
| Allen, Earl | I.A. | Sp. | Lyons |
| Allen, Eleanor Waggoner | Com. | Vo. | Portland |
| Allen, Ella | H.E. | Jr. | Lostine |
| Allen, Leon Charles | C.E. | Fr. | Hillsboro |
| Allen, Rea Elizabeth | Phar. | Jr. | Corvallis |
| Allen, Sam Scholibe | For. | Fr. | Portland |
| Allison, Wesley Homer | Agri. | Vo. | Prineville |
| Alter, Harry Meacham | Agri. | Fr. | Ontario, Cal. |
| Altimus, Otis Ellsworth | C.E. | So. | Newberg |
| Altimus, Vada Gertrude | H.E. | Sp. | Newberg |
| Alstadt, George John | For. | Sr. | Portland |
| Amick, Rosa Alice | Com. | Fr. | Kent |
| Anawalt, Clinton LaVerne | Agri. | Jr. | Jordan Valley |
| Anderson, Alford LeRoy | Agri. | Vo. | Richmond Beach, Wash. |
| Anderson, Archie | Agri. | Jr. | Ashland |
| Anderson, Arnold Clement | I.A. | Vo. | Albany |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
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| Anderson, Edith Theodora | Com..... | Fr..... | Portland |
| Anderson, Eline Bertha | Com..... | Fr..... | Portland |
| Anderson, Ella F. | H.E..... | Fr..... | Grants Pass |
| Anderson, Ellen Caroline | H.E..... | Sr..... | Portland |
| Anderson, Elmer Edward | Agri..... | So..... | Creswell |
| Anderson, Elmer Frithlof | E.E..... | Fr..... | Portland |
| Anderson, Frank Elmer | Agri..... | Vo..... | Medford |
| Anderson, Henry | E.E..... | Jr..... | Aberdeen, Wash. |
| Anderson, Herman Richard | I.A..... | Vo..... | Corvallis |
| Anderson, Hildur | Com..... | Fr..... | North Bend |
| Anderson, Irene Frances | H.E..... | So..... | McMinnville |
| Anderson, John William | C.E..... | Fr..... | Ashland |
| Anderson, Malinda Helena | Com..... | Fr..... | North Bend |
| Anderson, Oliver Gladstone | M.E..... | Fr..... | Ashland |
| Anderson, Oscar Eugene | Com..... | So..... | Linnton |
| Anderson, Otto Erwin | Agri..... | So..... | Ilwaco, Wash. |
| Anderson, Roy Elmer | E.E..... | Fr..... | Corvallis |
| Anderson, Rupert Wallace | M.E..... | Fr..... | Portland |
| Andrew, Walter Silas | Agri..... | Vo..... | La Grande |
| Andrews, Abby | H.E..... | Sr..... | Corvallis |
| Andrews, Charles Luther | H.E..... | Fr..... | Oregon City |
| Andrews, George Warren | Com..... | Fr..... | Toledo |
| Andrews, Jesse Varon | Com..... | Fr..... | La Grande |
| Andrews, Kenneth Cutter | C.E..... | So..... | Oregon City |
| Angle, Frank Cecil | M.E..... | Fr..... | Portland |
| Angles, Charles Fulton | Agri..... | Vo..... | Medford |
| Anlauf, Chester O. | Com..... | So..... | Portland |
| Appelgren, Frederik Waldemar | Agri..... | Fr..... | Portland |
| Appelman, Ruth Marguerite | Com..... | Jr..... | Corvallis |
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| Arias, John Vega | Agri..... | Sp..... | San Martin, Spain |
| Ariss, Dorothy Crosfield | H.E..... | Sr..... | Portland |
| Arms, Arthur William | Agri..... | Vo..... | Dayton |
| Armstrong, John Ralph | C.E..... | Fr..... | Oregon City |
| Armstrong, Joseph Albert | C.E..... | Fr..... | Paterson, N. J. |
| Armstrong, Sam Walter | Agri..... | Jr..... | Gardiner |
| Arnoldus, Anna Marie | H.E..... | Fr..... | Summerville |
| Arthur, Ernest Chas. | Agri..... | Jr..... | McMinnville |
| Ashahr, Katherine | H. E..... | Sr..... | Hillsboro |
| Ash, Minna Carolyn | H.E..... | Sp..... | La Grande |
| Ashbaugh, George Donald | Com..... | Fr..... | San Bernardino, Cal. |
| Ashton, Dan Lester | Com..... | Fr..... | Tangent |
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| Ashworth, Wesley Jennings | M.E..... | Fr..... | Roseburg |
| Attebery, James Jay | Agri..... | Fr..... | Payette, Idaho |
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| Atwood, Esther Margaret | H.E..... | Fr..... | Jerome, Idaho |
| Atwood, Hazel Julia | H.E..... | Fr..... | Corvallis |
| Auclair, Louis Harvey | Agri..... | Vo..... | Echo |
| Austin, Edith Helen | H.E..... | Jr..... | Redlands, Cal. |
| Austin, Lawrence Wesley | M.E..... | Fr..... | Portland |
| Averill, William Samuel | Agri..... | Jr..... | Corvallis |
| Avrit, Carl Jesse | Agri..... | Fr..... | Corvallis |
| Avrit, Pearl Beatrice | H.E..... | Fr..... | Corvallis |
| Avrit, Roy C. | E.E..... | Jr..... | Corvallis |
| Axtell, Edith Elizabeth | H.E..... | Vo..... | Corvallis |
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| Bachman, Jennie | Com. | Fr. | Clackamas |
| Backman, John Emil | Agri. | Jr. | Marshfield |
| Bacon, Helen Edith | Com. | Fr. | Portland |
| Badger, Raymond Eugene | Agri. | Jr. | Ashland |
| Badura, George Joseph | Com. | Fr. | Portland |
| Bagley, Elmer Ellsworth | Com. | So. | San Diego, Cal. |
| Bailey, Clarke Edward | Agri. | Fr. | Portland |
| Bailey, Eleanor June | Com. | So. | Junction City |
| Bailey, Hallard Martin | Agri. | Fr. | Portland |
| Bailiff, Boyd William | Com. | So. | Corvallis |
| Bails, Philip Alfred | C.E. | Fr. | Corvallis |
| Bain, Daisy Blanche | H.E. | Fr. | Medford |
| Bain, Walter Marion | C.E. | Sr. | Portland |
| Baird, Earl | E.E. | Fr. | Newberg |
| Bair, Ray Elmer | M.E. | Fr. | Fossil |
| Baker, Charles Eugene | Agri. | Jr. | Los Angeles, Cal. |
| Baker, Glenn Sylvester | Phar. | Fr. | Centralia, Wash. |
| Baker, Harold Azariah | Agri. | Sp. | Oswego |
| Baker, Harry | M.A. | Vo. | Corvallis |
| Baker, Rufus William | Agri. | So. | Oregon City |
| Baker, Sarah Leone | H.E. | Fr. | Astoria |
| Baker, Thomas Claude | Agri. | So. | Pilot Rock |
| Baker, Victor Raymond | For. | So. | Portland |
| Balbach, John Raymond | Com. | So. | Portland |
| Balcom, Myrth Edyth | Com. | Jr. | Burbank, Cal. |
| Balderree, Caryl Dorothy | H.E. | Sp. | Corvallis |
| Balderree, Elmer Wendell | For. | So. | Dallas |
| Balderree, Irving Dewey | I.A. | Vo. | Dallas |
| Ball, Harold | Agri. | Sr. | National City, Cal. |
| Ball, Ted Maurice | Agri. | Jr. | Corvallis |
| Ballheim, Dorothy Maude | H.E. | Fr. | Portland |
| Banks, Reno Parkman | Agri. | Sr. | Brooklene, Mass. |
| Banta, Glenn Iran | Agri. | Sr. | Selah, Wash. |
| Barber, Eric Capel | I.A. | Vo. | Waldport |
| Barger, Robert Malcolm | Com. | Fr. | Portland |
| Barhyte, Catherine Ellen | H.E. | Fr. | Salem |
| Barker, Fowler Wesley | Agri. | Sp. | Oakland, Cal. |
| Barker, Guy Edwin | Com. | Jr. | Cove |
| Barker, Paul Cooper | Agri. | Sr. | Reno, Nev. |
| Barker, William Lewis | I.A. | Vo. | Roseburg |
| Barlow, Floyd Lincoln | Agri. | Vo. | Heppner |
| Barnes, Delmar Hayes | E.E. | Vo. | Roseburg |
| Barnes, Franklin Lockwood | Com. | So. | San Diego, Cal. |
| Barnes, Katie Mildred | Com. | Sp. | Corvallis |
| Barnett, Frances Rachel | H.E. | Fr. | Creswell |
| Barnum, Marion Elizabeth | Com. | Jr. | Medford |
| Barnum, Millard McKinley | For. | Sp. | Etna Mills, Cal. |
| Barratt, Helen Constance | H.E. | Fr. | Heppner |
| Barratt, Jones Garnet | Agri. | Sp. | Heppner |
| Barrett, Edmond Montgomery | Agri. | So. | Ashland |
| Bartel, Gayle | C.E. | Fr. | Alsea |
| Bartholomew, Buell Ann | Com. | So. | Corvallis |
| Bartlett, Willard Stephen | Agri. | Vo. | Rickreall |
| Bartlett, Willis Murry | Min. | Jr. | Portland |
| Barton, Wildin Hartwell | C.E. | Fr. | Portland |
| Barzee, Wilma | Com. | Fr. | Corvallis |
| Bassett, Raymond Harris | Com. | Fr. | Newberg |
| Bates, Jean Clara | Com. | So. | Portland |
| Bates, Wilma Jaunita | Com. | Fr. | Roseburg |
| Bauer, Albert | C.E. | So. | Portland |
| Baumgartner, John Albert | C.E. | Fr. | Milwaukie |
| Baxter, Eugene Millard | Phar. | Fr. | Kennewick, Wash. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|----------------------|
| Baxter, Louis | Agri. | Vo. | Eden, Wash. |
| Bayley, Henry Ralph | Agri. | Fr. | Los Angeles, Cal. |
| Bayly, Carrie | Com. | Jr. | Eugene |
| Bayne, Mary Elizabeth | Phar. | Fr. | Salem |
| Beall, Malcolm John | Agri. | Jr. | Portland |
| Beals, Erma Elizabeth | H.E. | Sr. | Corvallis |
| Beals, Oliver Kenneth | Agri. | So. | Corvallis |
| Bean, Bruce Chesley | Agri. | So. | Colton, Cal. |
| Bean, Theron Walthall | E.E. | Fr. | Portland |
| Beatie, John Myers | Agri. | Fr. | Oregon City |
| Beatty Matthew Edwin | Min. | Fr. | Portland |
| Beatty, Ouray Ralston | E.E. | Fr. | Brownsville |
| Beauchamp, Bernard Deane | Agri. | Sp. | Freewater |
| Beck, Charline | H.E. | Vo. | Corvallis |
| Beck, Ralph | Agri. | Sr. | Corvallis |
| Beck, Oscar Jesse | Agri. | Fr. | Woodburn |
| Beck, Robert William | C.E. | So. | Portland |
| Becken, Carl George | Agri. | Jr. | Hillsboro |
| Becker, Florence Caroline | H.E. | Fr. | Corvallis |
| Becker, Loretta Clare | Phar. | Jr. | Corvallis |
| Becker, Murlin | M.E. | Vo. | Vancouver, Wash. |
| Becker, Nona | Com. | Fr. | Portland |
| Beckman, Peter Theodore | Com. | So. | Ontario |
| Beckwith, Arthur Sunderland | E.E. | Fr. | Portland |
| Beckwith, Harold Edward | Agri. | Fr. | Portland |
| Bedynek, John | I.A. | Vo. | Corvallis |
| Beebe, Web Evandor | Phar. | Fr. | Dallas |
| Beeler, Bernardien Gwynwyn | Com. | Fr. | The Dalles |
| Beers, Clifford | I.A. | Vo. | Reed |
| Beers, Nelson Homer | Com. | Vo. | Reed |
| Begg, Ellis Eocke | E.E. | Fr. | Johnshaven, Scotland |
| Bell, Dan Pirn | Agri. | Fr. | Pendleton |
| Bell, George Foster | Agri. | Jr. | Gardena, Cal. |
| Bell, James Douglas | C.E. | So. | Pioneer |
| Bell, James Horace | I.A. | Vo. | New Meadows, Idaho |
| Bellamy, Gwendolyn Maude | H.E. | Fr. | Ukiah, Cal. |
| Belmore, Ralph Westley | E.E. | So. | Portland |
| Belt, Walter | Phar. | Sr. | Newport |
| Belt, William Edward | Com. | Fr. | Newport |
| Benedict, Albert Veness | M.A. | Vo. | Hermiston |
| Benedict, Arthur Harold | M.E. | So. | Hermiston |
| Benedict, Myrtle Irene | Com. | Sp. | Portland |
| Benedict, Newton Rollin | Agri. | Vo. | Santa Ana, Cal. |
| Bennett, Eli | Agri. | Fr. | Gooding, Idaho |
| Bennett, Jesse Joe | Agri. | Vo. | Weston |
| Bennett, Lester Jay | Agri. | Vo. | Eugene |
| Benson, Albert Clarence | Agri. | Sp. | Seattle, Wash. |
| Benson Frances Irene | Com. | Fr. | Portland |
| Bentley, Leon William | C.E. | Fr. | Hood River |
| Beougher, Ethel Olive | H.E. | Jr. | Albany |
| Berg, John Clifford | Com. | Jr. | Walla Walla, Wash. |
| Berg, Robert | Agri. | Vo. | Birkenfeld |
| Berg, Winifred Barbara | H.E. | So. | Birkenfeld |
| Bergler, Herbert Charles | M.E. | Sp. | Portland |
| Berremann, William Wesley | Com. | So. | Walla Walla, Wash. |
| Berry, Hally Leland | M.E. | Vo. | Junction City |
| Berry, Marie Evan | H.E. | Fr. | Hood River |
| Best, Charles Acheson | E.E. | Fr. | Medford |
| Bestul, Juel Nelson | Com. | Fr. | Grants Pass |
| Betts, Genevieve Dillaye | Com. | So. | Cordova, Alaska |
| Bevens, Dorval | Com. | Fr. | Airlie |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|----------------------|
| Bickford, Arthur Clare | Agri. | Sp. | McMinnville |
| Bidwell, Frank Beane | Agri. | Fr. | North Powder |
| Bierderman, Wilbur George | Agri. | Fr. | Portland |
| Biegel, Earl Julius | E.E. | Fr. | Ashland |
| Biehler, Bessie Marion | H.E. | So. | Lynden, Wash. |
| Biersdorf, Edgar Alvin | Agri. | So. | Portland |
| Billeter, Calvin | E.E. | Jr. | Portland |
| Billeter, Paul Edward | Com. | Jr. | Portland |
| Billick, Robert | M.E. | Fr. | Alturas, Cal. |
| Billings, George Arthur | I.A. | Sp. | Portland |
| Bingham, Curtis Harry | Agri. | Jr. | Alhambra, Cal. |
| Binns, Kenneth Lee | Com. | Fr. | Heppner |
| Binns, Mary Anderson | H.E. | Sr. | Corvallis |
| Bird, James | Com. | Sp. | Washington, D. C. |
| Birgfeld, Florence Helen | H.E. | Fr. | The Dalles |
| Bitney, Dewey Hobson | M.E. | Jr. | Woodburn |
| Black, Carl Theron | Com. | Fr. | Roseburg |
| Black, Theodore Addison | Phar. | So. | Ashwood |
| Black, William Plummer | Agri. | Sp. | Corvallis |
| Blackburn, Flossie Mae | H.E. | Fr. | Corvallis |
| Blackman, Edgar Burns | Agri. | Sp. | Beaver City, Neb. |
| Blackman, Roger Moe | Agri. | Fr. | Hood River |
| Blackstone, Percy Wendell | Op. | | Youngstown, Ohio |
| Blake, Earl Judson | Agri. | Vo. | Ione |
| Blomgren, George Vernon | Agri. | Fr. | Weston |
| Blowers, Ruth Phyllis | H.E. | Fr. | Hood River |
| Boak, Gail Carrie | H.E. | So. | Bandon |
| Boals, Lillian Logan | H.E. | Sp. | Cherry Valley, Mass. |
| Boardman, Earl Clifford | Com. | Fr. | Jennings Lodge |
| Bobzien, Helen Carolyn | H.E. | Jr. | Grants Pass |
| Bock, Fred Neale | Com. | Jr. | Condon |
| Bodine, Roger Campbell | For. | Sp. | Pasadena, Cal. |
| Bodle, Orval McKinley | Com. | Jr. | Bay City |
| Bodner, Michael James | Eng. | Jr. | Spion Kop, Mont. |
| Boeringa, John | Agri. | Vo. | Grassmere, Wash. |
| Boehme, Henry Edward | Agri. | Vo. | Fair Grove, Mo. |
| Boetticher, Marion Louis | M.E. | Jr. | Albany |
| Boge, Charles | Min. | Jr. | Cornellius |
| Boguess, John Willis | I.A. | Sr. | Veneta |
| Bogie, Donald Leeman | I.A. | Fr. | Puyallup, Wash. |
| Bogynska, Henry Carl | M.E. | Vo. | Salem |
| Bollen, Walter | Agri. | Jr. | Portland |
| Bolt, Leland Eddy | M.E. | So. | Freewater |
| Bonesteel, Russell Fredrick | Com. | Fr. | Salem |
| Bonny, Luckey Lowell | Phar. | So. | Salem |
| Bonney, Willard Dorris | Com. | Vo. | Woodburn |
| Boone, Ira | Agri. | Fr. | Upland, Cal. |
| Board, Opal Irene | H.E. | Jr. | Corvallis |
| Booth, Carl Vivian | Com. | Fr. | Salem |
| Booth, Claud | E.E. | Fr. | Corvallis |
| Booth, Clifton Wallace | Eng. | Fr. | Corvallis |
| Booth, George Clive | C.E. | Fr. | Corvallis |
| Borgeson, Arthur Andrew | Phar. | Fr. | Portland |
| Bouck, Ernest Clarence | M.A. | Vo. | Turner |
| Bouffleur, Albert Edmund | E.E. | Fr. | Salem |
| Bowersox, John Maxwell | Phar. | So. | Monmouth |
| Bowker, Morris Crawford | Com. | So. | Roseburg |
| Bowman, Fred Albert | Agri. | Vo. | Scio |
| Bown, Florence Lavina | H.E. | Sp. | Nova Scotia |
| Boyakin, Joseph | M.E. | Jr. | Nehalem |
| Boyer, Ralph Sidney | I.A. | Vo. | Philadelphia, Pa. |
| Boyen, Elma Elmer | H.E. | Vo. | Pilot Rock |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| Boyle, Wayne Joseph | For. | Vo. | Canyonville |
| Bozarth, Squire Smith | Phar. | Fr. | Woodland |
| Bradbury, Aubra Edna | Phar. | So. | Klamath Falls |
| Bradley, Pearl | H.E. | Sr. | Corvallis |
| Bramer, Ethyle | H.E. | Fr. | Portland |
| Bramkamp, Charles Corley | Agri. | So. | Fresno, Cal. |
| Brander, Alexander | Agri. | Vo. | Scotland |
| Brandes, Alan Carl | Min. | Jr. | Portland |
| Branson, Averill Percy | M.A. | Vo. | Salem |
| Braun, Elsie | H.E. | Sr. | Portland |
| Brauti, Erling | Phar. | Fr. | Toledo |
| Brayton, George Frances | Com. | Fr. | Long Beach, Cal. |
| Brebner, Edith Alla | H.E. | Fr. | St. Maries, Idaho |
| Breese, Roy Arthur | Agri. | Jr. | Red Bluff, Cal. |
| Bremner, Alexander | For. | Fr. | Astoria |
| Bremner, Mary Helen | Phar. | Fr. | Portland |
| Brennan, Andrew Frank | For. | Sr. | Boise, Idaho |
| Brewer, Loulin | Agri. | So. | Chemawa |
| Brewer, Marjorie | H.E. | So. | Corvallis |
| Brewer, Ruth Hannah | H.E. | Sr. | Chemawa |
| Brewster, William Raymond | Agri. | Vo. | Lebanon |
| Briggs, Cyrus Ripley | Agri. | Jr. | Portland |
| Briggs, John Stewart | Eng. | So. | Portland |
| Briggs, Louis Merle | Agri. | Jr. | Cheney, Wash. |
| Briggs, Merton Benjamin | I.A. | So. | Salem |
| Briggs, Rita Elizabeth | H.E. | Sp. | Corvallis |
| Briggs, Willie Louis | Agri. | Sp. | Hilgard |
| Bright, Bernice | Com. | So. | The Dalles |
| Brimmer, Porter Amos | Agri. | So. | Realto, Cal. |
| Brix, Herbert Shafter | Com. | Vo. | Portland |
| Broadway, Prentice Clifton | Phar. | Sp. | Jonesboro, Ark. |
| Broders, Chester | Com. | So. | Corvallis |
| Brooks, Clark Eloyd | Com. | Fr. | Hazelton, Idaho |
| Brooker, Fred Taylor | Agri. | Sp. | Vancouver, Wash. |
| Brothers, Mabel Ellen | H.E. | So. | Long Beach, Cal. |
| Broughton, Eva Lucretia | Phar. | Fr. | Silverton |
| Brown, Arthur Mackenzie | I.A. | Vo. | Vancouver, B. C. |
| Brown, Athel | | Op. | Baker |
| Brown, Charles Virgil | Com. | Vo. | Oregon City |
| Brown, Clell Grandison | M.E. | Fr. | Pendleton |
| Brown, Della | H.E. | Fr. | Yankton |
| Brown, Forbes Thompson | I.A. | Vo. | Eastside |
| Brown, Frances Ivan | Com. | So. | Amity |
| Brown, Frank Kimball | Agri. | Jr. | Walla Walla, Wash. |
| Brown, Gilbert Allen | Com. | Fr. | Payette, Idaho |
| Brown, Laurence Calwell | Agri. | So. | Troy |
| Brown, Lawrence Earl | Agri. | Sp. | Cornelius |
| Brown, Lester Ira | Agri. | Sp. | Portland |
| Brown, Marjorie Brown | Phar. | Fr. | Salem |
| Brown, Mark Lester | Phar. | Fr. | Corvallis |
| Brown, Minnie Pearl | | Op. | Baker |
| Brown, Oliver Ellis | Com. | Jr. | Yankton |
| Brown, Otis Carlton | Agri. | Vo. | McKinley |
| Brown, Robert David | M.E. | Fr. | Amity |
| Brown, Rowland Seth | Com. | Jr. | Yankton |
| Brown, Shirley Grace | H.E. | Jr. | Corvallis |
| Brown, Walter Raleigh | Phar. | Fr. | Gresham |
| Brucher, Olga | H.E. | Fr. | Corvallis |
| Brugger, Andrew Julius | C.E. | So. | Gresham |
| Brugger, Anna Marie | H.E. | So. | Gresham |
| Brumbach, Joseph Phellan | Agri. | Vo. | Parma, Idaho |
| Bryant, Theodore L. | Min. | Jr. | Ladysmith, B. C. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------------|-------------------|-------------|---------------------|
| Bryce, Frances | Com..... | Sp. | Meridian, Idaho |
| Brye, Irene Anna | H.E..... | Sr. | Auburn, Cal. |
| Bucago, Dionisir Salazar | Com..... | Fr. | Philippines |
| Buchanan, Barbara Jean | H.E..... | Fr. | Forest Grove |
| Buckner, Calud Philo | M.E..... | Fr. | Portland |
| Buckner, Mrs. Claude P. .... | ..... | Op. | Corvallis |
| Buchner, Delmer Carl | I.A..... | Vo. | Jefferson |
| Buchner, Lynn C. | M.E..... | Jr. | New Plymouth, Idaho |
| Buchner, Merle Conrad | Agri..... | So. | Albany |
| Buchner, Mertice Benjamin | Agri..... | So. | Albany |
| Bullard, Frank Wesley | Agri..... | So. | Corvallis |
| Bunnelle, Doris Hadlock | H.E..... | Fr. | San Dimas, Cal. |
| Burcham, Clyde Anderson | Agri..... | So. | Cottage Grove |
| Burchell, Hulda C. | Com..... | Jr. | Corvallis |
| Burdon, Fayne Eleanor | H.E..... | Fr. | Gladstone |
| Burgess, Joseph Thomas | Agri..... | Vo. | Dixie, Wash. |
| Burkholder, Belle | Com..... | So. | Corvallis |
| Burkholder, Charles Stouffer | E.E..... | Fr. | Corvallis |
| Burlingame, Natalie | H.E..... | Jr. | Sacramento, Cal. |
| Burnap, Florence De Etta | H.E..... | Sr. | Corvallis |
| Burns, Ollie Orange | Min..... | Fr. | Arco, Idaho |
| Burns, Robert Andrew | E.E..... | So. | Astoria |
| Burrell, Prescott | Agri..... | Sp. | Blackfoot, Idaho |
| Burris, Clarence James | Agri..... | Vo. | Greene Co., Mo. |
| Burris, John Harrison | Phar..... | Jr. | Salem |
| Bursell, Hazel Olivia | H.E..... | So. | Monmouth |
| Burt, Uriel | Com..... | So. | Corvallis |
| Burtner John Cole | Agri..... | Fr. | Dufur |
| Burton, Stafford | I.A..... | Vo. | Tehachapi, Cal. |
| Burya, Fred Frank | I.A..... | Vo. | Woodburn |
| Busch, Esther Marie | H.E..... | So. | Salem |
| Busenbark, John, Jr. | Agri..... | Vo. | Roseburg |
| Bush, Zetta Zeretta | H.E..... | Sr. | Hoskins |
| Bushman, John Henry | E.E..... | Fr. | Springfield |
| Bushnell, Caroline Richmond | H.E..... | Vo. | Portland |
| Butler, Claude Victor | Agri..... | Fr. | Redmond |
| Butler, Guy | C.E..... | Jr. | Albany |
| Butler, Ray Elmer | E. E..... | Fr. | Eugene |
| Butler, Ruth Ellene | Phar..... | Fr. | Lebanon |
| Butz, Elmer Fenley | Agri..... | Fr. | Dallas |
| Buxton, Henry Oliver | Agri..... | So. | Corvallis |
| Byrd, Michael Lee | Phar..... | Fr. | Stillwater, Okla. |
| Cady, Allen Harold | Phar..... | So. | Corvallis |
| Cady, Harry Palmer | E.E..... | Sp. | Corvallis |
| Caldwell, Malcolm Bridgham | Agri..... | Fr. | Colville, Wash. |
| Caldwell, Philip Morrison | Agri..... | Fr. | Colville, Wash. |
| Caldwell, Sidney Eugene | E.E..... | Fr. | Portland |
| Caldwell, Vera Fern | H.E..... | Jr. | Gooding, Idaho |
| Callender, Melville Holden | For..... | Sp. | Astoria |
| Callihan, Lanty Cameron | Phar..... | Fr. | Union |
| Campbell, Carvel Churchman | Com..... | Fr. | Dallas |
| Campbell, Cogswell | E.E..... | Fr. | Eugene |
| Campbell, Donald | C.E..... | So. | Portland |
| Campbell, Donald Neil | Com..... | Jr. | Portland |
| Campbell, James | M.E..... | So. | Roseburg |
| Campbell, Mae | Com..... | Fr. | Condon |
| Campbell, Ralph Henry | Agri..... | Jr. | Amity |
| Campbell, Ruby Elizabeth | H.E..... | Jr. | Puyallup, Wash. |
| Canedy, Marthellon Grant | Agri..... | So. | Everson, Wash. |
| Canfield, Amy Carol | Com..... | Jr. | Ontario |
| Cannavina, Anthony | For..... | Fr. | Pasadena, Cal. |
| Cantrall, Edward Leve | M.E..... | So. | Klamath Falls |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|----------------------|
| Cantrall, Otto Lamar | E.E. | Sr. | Ruch |
| Capell, Francis Frank | Com. | Fr. | Portland |
| Carbonell, Hermogenes Barba | Com. | So. | Philippines |
| Carder, Dean Samuel | Min. | Jr. | Medford |
| Carlsen, Clifford Norman | Agri. | So. | Kent, Wash. |
| Carlson, Arthur Albert | Com. | Sr. | Portland |
| Carlson, Elsie Ernestine | | Opt. | Mulino |
| Carlson, Howard | Com. | Jr. | Butte, Mont. |
| Carlson, Jennie | H.E. | Jr. | Oswego |
| Carlson, Oliver Benjamin | Com. | Fr. | Portland |
| Carlyle, Mildred | H.E. | Sr. | Forest Grove |
| Carnes, Deirdre | H.E. | Sr. | North Powder |
| Carnine, Ellsworth Rogers | M.E. | Vo. | Condon |
| Carnine, LeRoy Adrid | Agri. | Vo. | Condon |
| Carpenter, Glen Earl | E.E. | Fr. | Boardman |
| Carr, James Miller | Com. | Fr. | Portland |
| Carson, Caryl | C.E. | Fr. | Salem |
| Cartan, Frederick Roger | E.E. | So. | Corvallis |
| Carter, Addie Elizabeth | Com. | Sp. | Hillsboro |
| Carter, Earl Edgar | Com. | Fr. | Hillsboro |
| Carter, Harold Samuel | C.E. | Jr. | Drain |
| Carter, Haskell Clarence | M.E. | Fr. | Hillsboro |
| Carter, Loyd Frank | M.E. | Sr. | Portland |
| Carter, Will Raymond | E.E. | Fr. | Hood River |
| Case, Austin | Com. | Jr. | Klamath Falls |
| Casey, Edmond | Agri. | So. | Colton, Cal. |
| Casey, May Helen | H.E. | Fr. | Meacham |
| Casiday, Henry Arthur | Agri. | Fr. | Ontario |
| Cassery, Eleanor Cecile | H.E. | Sp. | Hermiston |
| Castater, Ralph Martin | Phar. | So. | Parma, Idaho |
| Castner, Frances Lillian | H.E. | Jr. | Hood River |
| Caswell, Lucile Fanny | Com. | Jr. | Eugene |
| Caudle, Earl Cecil | C.E. | Jr. | Hillsboro |
| Cavanagh, Herbert Clain | Agri. | Sp. | North Bend |
| Chalmers, Earl John | Agri. | Sp. | Forest Grove |
| Chamberlin, Teresa Kezar | H.E. | Fr. | Eugene |
| Chambers, Bernice Gertrude | H.E. | Fr. | Corvallis |
| Chambers, Harriet Elizabeth | H.E. | So. | Caldwell, Idaho |
| Chambers, Ruth Anne | H.E. | Jr. | Portland |
| Chandler, Annabel Carolyn | Phar. | Jr. | Maplewood, N. J. |
| Chandler, Charles | Agri. | Jr. | Fresno, Cal. |
| Chandler, Lloyd Russel | C.E. | Fr. | La Grande |
| Chandler, Ollie May | H. E. | So. | Walla Walla, Wash. |
| Chandler, Veva Mary | Com. | So. | Walla Walla, Wash. |
| Chaney, Juanita Mae | H.E. | Jr. | Corvallis |
| Chapel, Franklin Gage | M.E. | Jr. | Portland |
| Chapman, Margaret | Com. | Jr. | Sheridan |
| Chapman, John Cecil | C.E. | Sr. | Sheridan |
| Chapman, Macy Daniel | Com. | Sp. | Boise, Idaho |
| Chapman, Paul Jones | Agri. | So. | Santa Rosa, Cal. |
| Chapman, Sanford Elmer | Agri. | Vo. | Lostine |
| Charlston, Gus Adolph | E.E. | Vo. | Brush Prairie, Wash. |
| Chase, Clarence Alda | Agri. | Sp. | Eugene |
| Chase, Marian Lois | H.E. | Jr. | Corvallis |
| Chatterton, Paul Wesley | M.E. | Fr. | Portland |
| Chellis, Lawrence True | I.A. | Sr. | Astoria |
| Chenoweth, John Anthony | Agri. | Fr. | Wallowa |
| Chesser, Arzie Maxwell | M.E. | Fr. | Stevenson, Wash. |
| Chindgren, Ruben Franklin | Agri. | Vo. | Mulino |
| Chisholm, William Wallace | Agri. | Fr. | Pasadena, Cal. |
| Choote, Homer Sylvester | Agri. | Vo. | Portland |
| Chrisman, Harold Francis | C.E. | Fr. | Portland |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-------------------------------------|-------------------|-------------|----------------------|
| Christensen, Emile | Agri. | Jr. | Portland |
| Christensen, Fred | M.E. | Fr. | Timber |
| Christiansen, Clarence Lewis | Min. | So. | Portland |
| Christiansen, Lulu | H.E. | Sr. | Havre, Mont. |
| Christinsen, William Oluf | E.E. | Sp. | Jefferson |
| Christianson, Arthur | M.E. | So. | Moro |
| Chruden, Laurence Bertram | Com. | Vo. | Duluth, Minn. |
| Chu, John Shih | Agri. | Fr. | Vancouver, B. C. |
| Church, Leighton | E.E. | Jr. | Williams, Cal. |
| Church, Alda Mae | Com. | Fr. | Brownsville |
| Churchill, Carrie Hardy | H.E. | Jr. | Long Beach, Cal. |
| Churchill, Jennie Babb | | Op. | Corvallis |
| Churchill, Leigh | Agri. | Sr. | Corvallis |
| Chute, Mary Elizabeth | Com. | Fr. | Jefferson |
| Clark, Arthur Tuttle | Com. | So. | Mattoon, Ill. |
| Clark, Edward Leslie | E.E. | Fr. | Salem |
| Clark, Elizabeth Voshall | Agri. | Sp. | Washington, D. C. |
| Clark, James Holbert | Agri. | Sr. | Mattoon, Ill. |
| Clark, Newton | M.E. | So. | Hood River |
| Clark, William Harold | Agri. | Fr. | Rainier |
| Clarke, Dorothy Mae | H.E. | Fr. | Corvallis |
| Clarke, Elton Barker | M.E. | Fr. | Condon |
| Claypool, Raymond Stanley | I.A. | Vo. | Roseburg |
| Claypool, Signey Wayne | Phar. | Fr. | Corvallis |
| Cleaver, Harry Morris | Agri. | So. | Imbler |
| Clement, Lois Le Roy | H.E. | Fr. | Woodburn |
| Clement, William Belden | C.E. | Fr. | Newberg |
| Clifford, Ida Arvilla | H.E. | So. | Portland |
| Clough, Alfred Blakley | Agri. | So. | Portland |
| Clyde, Dorothea Virginia | H.E. | Sp. | Corvallis |
| Coburn, Austin Plummer | Com. | Vo. | Manchester, N. H. |
| Cochran, Earl Arlington | I.A. | Vo. | Cloverdale |
| Cockrum, Arthur Bishoff | Com. | Jr. | Ontario |
| Coe, Francis Morse | Agri. | Fr. | San Bernardino, Cal. |
| Cofer, Eldon Howard | C.E. | So. | Klamath Falls |
| Coffey, Victor Harrison | C.E. | So. | Warrenton |
| Coffman, Rupert Vern | Com. | So. | Cottage Grove |
| Cohill, Victoria | H.E. | Sr. | Corvallis |
| Cole, Clara Alida | Com. | So. | Yacolt, Wash. |
| Cole, Edith | H.E. | Vo. | Heisson, Wash. |
| Cole, Hazel Helen | H.E. | Fr. | Portland |
| Cole, Helen Hazel | H.E. | Fr. | Portland |
| Cole, Maple | H.E. | Sr. | Canby |
| Cole, Ralph | Agri. | Fr. | Santa Ana, Cal. |
| Cole, Vida Beatrice | H.E. | Fr. | Molalla |
| Coleman, Herbert Sidney | Agri. | Vo. | Wells |
| Coleman, Howard Jas. Sullivan | Agri. | Vo. | Portland |
| Coles, Edith Jane | Com. | Fr. | Portland |
| Coles Edward William | E.E. | Fr. | Portland |
| Collier, Carol Castle | Phar. | Fr. | Portland |
| Collins, Bertha Claire | Com. | Jr. | Corvallis |
| Collins, Burton Thane | Min. | Jr. | Corvallis |
| Collins, Flora Alberta | Com. | Fr. | Anaconda, Mont. |
| Collins, William Orville | M.E. | So. | Waterloo |
| Collver, Chester Alfred | Agri. | Fr. | Marshfield |
| Colpitts, Olive Percis | H.E. | Sr. | Fowler, Colo. |
| Colvin, Henry Ward Bucher | Agri. | Vo. | Aurora |
| Colwell, Elmer Ted | Com. | Fr. | Portland |
| Colwell, Russell McGee | For. | Fr. | Portland |
| Coman, Ellis Seymour | For. | Jr. | Covina, Cal. |
| Combes, Oris Marie | Phar. | Fr. | Enterprise |
| Combs, Albert Nelson | Eng. | So. | Portland |
| Combs, Arthur William | Com. | So. | Cottage Grove |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|---------------------------------|-------------------|-------------|----------------------|
| Condit, Craig Cuyler | Agri. | So. | Juneau, Alaska |
| Cone, Elizabeth Glyde | H.E. | Jr. | Corvallis |
| Conklin, Donald | Agri. | Sr. | Ontario |
| Conklin, Philip | M.E. | Jr. | Cove |
| Conklin, Robert Pierson | For. | So. | Portland |
| Conklin, Roscoe | Agri. | Fr. | Ontario |
| Conklin, Thomas Richard | M.E. | Fr. | Cove |
| Conley, Edward Daley | Agri. | Fr. | Portland |
| Conley, Elba | Com. | Sp. | Flora |
| Conley, Kittie | Com. | Fr. | Flora |
| Conner, Eben La Monte | Agri. | Fr. | North Bend |
| Conner, Rita Lorie | H.E. | So. | Corvallis |
| Connet, Darwin Bardwell | M.E. | Fr. | Lebanon |
| Conroy, Jewell Ruth | Phar. | So. | Anacanda, Mont. |
| Cook, Gayle Helen | Com. | Fr. | Portland |
| Cook, Kelsey Wellington | Com. | Sp. | Portland |
| Cook, Lloyd Lee | Agri. | So. | San Bernardino, Cal. |
| Cook, Marvin Wilfred | I.A. | Vo. | Brownsville |
| Cook, Ransom | E.E. | Fr. | Portland |
| Cooley, Earl Ray | Agri. | So. | Harrisburg |
| Cooley, Lyman Andrew | Com. | Fr. | Parkwood |
| Cooley, Warren Robert | Phar. | So. | Harrisburg |
| Coon, Leston Kelly | Agri. | Vo. | Corvallis |
| Coons, Ernest Alvin | Phar. | Fr. | Salt Lake City, Utah |
| Cooper, Benjamin Harrison | Agri. | Sp. | Corvallis |
| Cooper, Calvin, Chas. | Agri. | Sp. | Dufur |
| Cooper, Clarence Edward | M.E. | Fr. | Portland |
| Cooper, Howard Laraway | M.E. | Jr. | Hood River |
| Coovert, Elmo Claire | For. | Fr. | Portland |
| Copeland, Alvin Silas | Agri. | So. | Los Angeles, Cal. |
| Copenhagen, James Edgar | Agri. | Vo. | Heppner |
| Copson, Mrs. June Seeley | Op. | | Corvallis |
| Cordelle, Howard | E.E. | Sr. | Weiser, Idaho |
| Corcoran, John Boyce | Agri. | Vo. | Spokane, Wash. |
| Cordley, Dorothea McLouth | H.E. | Fr. | Corvallis |
| Corl, James Albert | Com. | Fr. | Corvallis |
| Corlett, Donald Alexander | M.E. | Fr. | Portland |
| Cornwell, Ethel Klann | H.E. | Jr. | Corvallis |
| Cornwell, Raymond Lee | Agri. | Jr. | Golden City, Mo. |
| Corthell, Elden, | Agri. | Jr. | Medford |
| Corthell, Stella Denzee | H.E. | Jr. | Medford |
| Cory, William McKinley | Agri. | Sr. | Etna Mills, Cal. |
| Cottom, Kenneth Klack | Agri. | Jr. | Berea, Ohio |
| Countiss, Cora Selena | Com. | Fr. | Amity |
| Countryman, Charles Milam | Com. | Fr. | Bellingham, Wash. |
| Covell, Margaret | H.E. | Sr. | Corvallis |
| Cowgill, Clara Edith | H.E. | Jr. | Grangeville, Idaho |
| Cowles, Mavis Marion | H.E. | Fr. | Portland |
| Cowley, Doris Rowell | Com. | Sr. | Central Point |
| Cowley, John Farnum | Min. | Jr. | Central Point |
| Cox, Clifford Bryan | Agri. | So. | San Bernardino, Cal. |
| Cox, Stephen | Agri. | So. | Ontario |
| Coyner, Marion Lee | Com. | Fr. | Bend |
| Croddock, Chester William | Agri. | Sp. | Silvies |
| Craft, Emma | H.E. | Jr. | Forest Grove |
| Craft, Maude | H.E. | Fr. | Forest Grove |
| Cramer, Arthur Putnam | M.E. | So. | Grants Pass |
| Cramer, Jeannette Putnam | H.E. | So. | Grants Pass |
| Cramer, Noah Arthur | Agri. | Fr. | Yale, Ill. |
| Crandall, Florence | Com. | Vo. | Corvallis |
| Crandall, Grace Evelyn | H.E. | Jr. | Vancouver, Wash. |
| Crandall, Irma | Com. | So. | Vancouver, Wash. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|---------------------|
| Crandall, Kenneth Walter | Com. | Fr. | Portland |
| Crane, Harold Albert | Agri. | Sp. | Veryennes, Vt. |
| Crane, Helen Ellis | H.E. | Sp. | Pittsfield, Vt. |
| Crane, William Percy | I.A. | Vo. | Corvallis |
| Craven, Milton Mowrey | For. | Fr. | Hood River |
| Crawford, Ellen Lee | H.E. | Fr. | Fresno, Cal. |
| Crawford, James Malcolm | Agri. | So. | Fresno, Cal. |
| Crawford, Phina | Com. | Fr. | Portland |
| Crawford, William Vawter | Phar. | Fr. | Heppner |
| Creson, Cycel Hugh | Agri. | Vo. | Salem |
| Crim, Roy Frederick | M.E. | Sp. | Portland |
| Crimmins, Murrell Henry | E.E. | Fr. | Castle Rock, Wash. |
| Crocker, Claude Wallace | E.E. | Fr. | Roseburg |
| Croisan, George | Agri. | Sp. | Salem |
| Croissant, Albert Arthur | M.E. | Fr. | Lyons |
| Cronk, Willis Flenn | Agri. | Fr. | Elberton, Wash. |
| Cross, Donald Herbert | Agri. | Fr. | Bellingham, Wash. |
| Crout, John Shaw | M.E. | Fr. | Portland |
| Crouter, Herbert Stephen | Agri. | Fr. | Baker |
| Crouter, Mary Catherine | Com. | So. | Union |
| Crow, Grant | M.E. | Fr. | Pocatello, Idaho |
| Crow, John William, Jr. | Agri. | Sp. | Pendleton |
| Crowell, Andrew Edward | Agri. | So. | Los Angeles, Cal. |
| Crowell, Chester | Min. | Sr. | Waldo |
| Crowell, Willard Weymouth | Agri. | Sp. | Los Angeles, Cal. |
| Crump, Evelyn Marie | Com. | Fr. | Portland |
| Culbertson, Anson Oliver | I.A. | Vo. | Mulino |
| Culver, Donald | Agri. | Vo. | Seattle, Wash. |
| Culver, Earl Farnam | Com. | Sp. | Palouse, Wash. |
| Cummings, Jay Wilson | Com. | So. | Howard, Kans. |
| Cunning, Ethel | Com. | So. | Baker |
| Cunning, Mamie | Com. | Jr. | Baker |
| Cunningham, Joseph Hobart | C.E. | Fr. | Portland |
| Curl, Byron | C.E. | So. | Lebanon |
| Curtis, Harold Callender | Agri. | So. | La Manda Park, Cal. |
| Curtis, Irene | H.E. | Sr. | Salem |
| Cusack, Mary Christina | Agri. | Fr. | Portland |
| Cushman, Esther Elizabeth | H.E. | So. | Moro |
| Cyrus, William Fletcher | Agri. | So. | Corvallis |
| Daddysman, Rex Allen | C.E. | So. | Medford |
| Dadmun, Orin | C.E. | Sr. | Independence |
| Dahlgren, Helen | Com. | So. | Astoria |
| Daigh, Charles Warren | Agri. | So. | Ontario, Cal. |
| Dakin, Hursey Alfred | Eng. | Fr. | Freewater |
| Dale, Martha Chamberlain | | Op. | Los Angeles, Cal. |
| Dallas, Bliss Bryan | Agri. | So. | Corvallis |
| Dallas, Earle Wesley | Agri. | Sr. | Corvallis |
| Dalton, Leonel Carl | Com. | So. | Portland |
| Daly, John Stephen | Phar. | Jr. | Sacramento, Cal. |
| Damon, Robert Elbridge | Agri. | Jr. | Halsey |
| Daniel, Clarence McClellan | For. | Sr. | Corvallis |
| Dannenmann, James George | Phar. | Fr. | Portland |
| Darby, Claude Harold | Min. | Fr. | Salem |
| DasGupta, Surendra Nath | Agri. | Jr. | India |
| Daue, Clifford | Phar. | Fr. | Salem |
| Davids, Arnold | Agri. | So. | Pasadena, Cal. |
| Davidson, Bess | Agri. | Fr. | Eugene |
| Davidson, Claude Barton | E.E. | Fr. | Hood River |
| Davidson, Elta | H.E. | Vo. | Meridian, Idaho |
| Davidson, Genevieve Florence | Com. | Fr. | Portland |
| Davis, Arthur Edward | Com. | Fr. | Roseburg |
| Davis, Berkeley Anthony | M.E. | So. | San Pedro, Cal. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-------------------------------|-------------------|-------------|---------------------|
| Davis, Helen Marjorie | Op. | Op. | Brownsville |
| Davis, Henrietta | H.E. | Fr. | Montague, Cal. |
| Davis, Herbert Webster | Com. | So. | Portland |
| Davis, James Baxter | Agri. | Sp. | Oakland |
| Davis, Julia Lillian | H.E. | Fr. | Vale |
| Davis, LaNoiel Bernard | Min. | Jr. | Salem |
| Davis, Lenn Mason | Agri. | Vo. | Corvallis |
| Davis, Lois Grace | H.E. | Sr. | Myrtle Creek |
| Davis, Lulo Ann | H.E. | Jr. | Big Rock, Ill. |
| Davis, Merle Bonney | H.E. | Sp. | Corvallis |
| Davis, Nellie | Com. | Fr. | Portland |
| Davis, Norma | H.E. | So. | Corvallis |
| Davis, Percy Everett | Agri. | So. | Albany |
| Davis, Walter | Agri. | Sp. | Parkdale |
| Davis, Wayne Keith | Com. | So. | Pomeroy, Wash. |
| Davolt, Bertha Eunice | H.E. | So. | Kelso, Wash. |
| Dawes, Charles Gates | Com. | Fr. | Independence |
| Dawes, Clifford Marshall | C.E. | Fr. | Portland |
| Dawson, Janet | Com. | So. | Albany |
| Day, Delbert | For. | So. | Portland |
| Deal, Delbert Chester | I.A. | Fr. | Dallas |
| Deamer, Vincent Roy | Agri. | Vo. | San Francisco, Cal. |
| Dean, Sidney Ceralpha | C.E. | So. | Castle Rock, Wash. |
| Dearing, Raymond Talman | Com. | Fr. | Portland |
| Deckebach, Frederick Carl | Phar. | Jr. | Salem |
| Dedman, Craig Charles | Com. | Fr. | Canby |
| Dedrickson, Christian | Agri. | Vo. | Denmark |
| De France, Irving Alfred | C.E. | Jr. | Philomath |
| Deggendorfer, Theodore George | Min. | Fr. | Portland |
| De Haven, Leslie | Phar. | Fr. | Clatskanie |
| Deichman, Charles Leonard | M.E. | Fr. | Hillsboro |
| Delzell, Thomas White | C.E. | Fr. | Klamath Falls |
| Demeree, Palmer Clair | Agri. | Vo. | Tacoma, Wash. |
| De Moy, Joseph Spencer | C.E. | Fr. | Estacada |
| Denlinger, Wendell | M.E. | So. | Maplewood |
| Denman, Augustus Nathan | Agri. | So. | Tacoma, Wash. |
| Denn, Henry Antonia | I. A. | Vo. | Roseburg |
| Denny, Lester Claude | Agri. | Fr. | Estacada |
| Dennis, Bruce | E.E. | Fr. | Raymond, Wash. |
| Dent, Milton A. | Com. | Jr. | Amity |
| Dentel, Russell | E.E. | Vo. | Aurora |
| Dentler, John Andrew Eugene | Com. | Fr. | Portland |
| Desmond, Frank | Com. | Sp. | Los Angeles, Cal. |
| Detmering, Sophia Helen | H.E. | Fr. | Dayton |
| De Witt, Ethel Susan (Mrs.) | Com. | Sp. | Moscow, Idaho |
| De Young, Byron | Agri. | Fr. | Portland |
| Dick, Bertram Gale | M.A. | Vo. | Albee |
| Dickerson, Raymond | Agri. | So. | Parma, Idaho |
| Dickey, Paul Condit | Agri. | So. | Hackberry, Ariz. |
| Dickenson, Arthur Lewis | Agri. | So. | Corvallis |
| Dickinson, Cameron Turner | Agri. | Fr. | Chicago, Ill. |
| Dickson, John Raymond | C.E. | Fr. | Toledo |
| Didtel, Kathryn Maig | H.E. | Jr. | Riddle |
| Dierdorff, William Henry | Agri. | Sp. | Hillsboro |
| Dilberger, Harold Augustius | E.E. | Fr. | Oakland, Cal. |
| Dilley, Harold Warner | E.E. | Fr. | Portland |
| Dillingham, Jean | H.E. | So. | Barston, Cal. |
| Dimick, Lottie May | H.E. | Sp. | Forest Grove |
| Dimick, Ora | H.E. | Sp. | Forest Grove |
| Ding, Albert Poy | M.E. | Fr. | Portland |
| Ding, Edw. Ralph | Agri. | Sr. | Portland |
| Dinger, Viola Ruth | H.E. | Jr. | Sublett, Idaho |
| Dinwiddie, Beulah Belle | Com. | Fr. | Corvallis |

UNDERGRADUATE STUDENTS

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| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|----------------------|
| Dinwiddie, Merrill Wayne | Com. | Sp. | Corvallis |
| Dinwiddie, Verne McKinley | Phar. | Sp. | Corvallis |
| Dippert, Albert Cyrus | C.E. | Fr. | Portland |
| Dixon, Keturah Dorothy | Com. | Fr. | St. Helens |
| Dobbs, Harry Collister | E.E. | Fr. | Portland |
| Dobson, Smith Weed | E.E. | So. | Pacific Beach, Cal. |
| Dodge, Randolph Orvill | M.E. | Vo. | Corvallis |
| Dolton, Henry Benjamin | For. | Fr. | Corvallis |
| Donaca, Nathell Reva | Com. | So. | Albany |
| Donahue, Judith Crawford | H.E. | Fr. | Lapine |
| Donaldson, John Manley | Agri. | So. | Riverton |
| Dorn, Lois | H.E. | Sr. | Pasadena, Cal. |
| Dornhecker, Frank Boyd | I.A. | Vo. | Albany |
| Dorris, Zeo | Agri. | Sr. | Portland |
| Doty, Curtis Monroe | Agri. | Vo. | Albany |
| Dougherty, Edward Elis | Agri. | Vo. | Brownstown, Ind. |
| Dougherty, Serle Alvan | Agri. | Fr. | Brownsville |
| Douglas, Alfred Earle | Phar. | Sr. | Littleton, Ill. |
| Doukas, Samuel James | Engr. | Jr. | Portsmouth, Va. |
| Dowling, Frank Joseph | Agri. | So. | Portland |
| Downie, Gladys Virginia | H.E. | Sp. | Seattle, Wash. |
| Downs, Ada Adelaide | H.E. | Jr. | Drain |
| Draper, Howard Crapo | Agri. | So. | Highland, Cal. |
| Drew, Hozy Dean | Com. | Fr. | Castle Rock, Wash. |
| Drewett, George | E.E. | So. | Prairie City |
| Dryden, Winifred Joseph | Com. | Jr. | Corvallis |
| Du Buisson, Dorothy Deane | H.E. | Fr. | Tacoma, Wash. |
| Duffy, Michael Donald | H.E. | Fr. | Scappoose |
| Dugan, William Harold | Com. | Fr. | Cottage Grove |
| Duke, William Douglas | Com. | Fr. | Sutherlin |
| Dumdi, Lloyd William | Agri. | Vo. | Portland |
| Duncan, Clifford Woodard | C.E. | Fr. | Portland |
| Duncan, Gordon Alexander | For. | Fr. | Portland |
| Duncan, Harold Milton | Com. | Fr. | Portland |
| Duncan, Hazel Bessie | Phar. | Fr. | Weston |
| Duncan, Vernon Pantall | Phar. | Fr. | Portland |
| Dungan, Ruth Phillips | H.E. | So. | Marshfield |
| Dunham, Mark Wartman | For. | Vo. | Burnette Creek, Ind. |
| Dunn, Cecil Forrest | Com. | So. | Portland |
| Dunn, Paul Eaton | M.E. | So. | Cascade Locks |
| Dunning, Eva | H.E. | Sr. | Stanfield |
| Dunning, Orpha | H.E. | So. | Stanfield |
| Durant, Ray Frederick | M.A. | Vo. | Woodburn |
| Durbin, Frank Willis | Agri. | So. | Salem |
| Durbin, Martin Hobart | M.E. | Fr. | Waldport |
| Du Rette, Agnes Isabelle | H.E. | Fr. | Gervais |
| Du Rette, Cecil Alexander | M.E. | So. | Gervais |
| Durham, Lee L. M. | Agri. | Sr. | Hemet, Cal. |
| Dyer, Joseph Melville | M.E. | Fr. | Astoria |
| Dykes, Thelma | M.E. | Sr. | Portland |
| Dykstra, Theodore Peter | Agri. | So. | Condon |
| Dyment, Donald | Agri. | Sp. | Portland |
| Eade, Edna Frances | Com. | Sp. | Charleston, Wash. |
| Eaden, James | Agri. | Vo. | Seattle, Wash. |
| Eastman, Edgar Wilson | Phar. | Sp. | Gresham |
| Eckhardt, Loyd Frank | Com. | Fr. | Portland |
| Eckley, Mood | M.E. | So. | La Grande |
| Edgerton, Harry Lorin | For. | Fr. | Grants Pass |
| Edwards, Dorothy Margaret | H.E. | Jr. | Corvallis |
| Edwards, Ewart Sargeant | M.E. | Fr. | Portland |
| Edwards, Floyd Marven | Agri. | Fr. | Monroe |
| Effinger, Robert Patterson | M.E. | So. | Monroe |
| Eggleston, Fitzhugh Lee | Agri. | Fr. | Brownsville |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|---------------------------------|-------------------|-------------|----------------------|
| Edison, Evald | C.E. | So. | Astoria |
| Elkelman, John Albert | Agri. | Jr. | San Bernardino, Cal. |
| Eilertson, John Edwin | For. | Sr. | Clatskanie |
| Eilertsen, John Leonard | Agri. | Fr. | Clatskanie |
| Eilertsen, William | Agri. | Sr. | Clatskanie |
| Ekstrom, Le Roy | M.E. | So. | Beaverton |
| Elbert, George | M.E. | Fr. | Salem |
| Elce, Mona Lorene | H.E. | Fr. | Los Angeles, Cal. |
| Eldred, Eber Wesley | Agri. | Vo. | Nampa, Idaho |
| Eldred, Merrill Harvey | Agri. | Vo. | Molalla |
| Eliasson, Gabriel Benner | Agri. | Vo. | Astoria |
| Elkins, Helen Oaks | Com. | Sr. | Prineville |
| Elliott, John Lauchlin | E.E. | Fr. | Klamath Falls |
| Elliott, Robert Boyd | E.E. | Fr. | Klamath Falls |
| Ellis, Lee Dora | Com. | Fr. | La Grande |
| Ellis, Herbert Legrand | Agri. | Sp. | Long Beach, Cal. |
| Ellis, Jesse Daniel | M.E. | Fr. | Albany |
| Ellis, Walter Raymond | E.E. | Fr. | Portland |
| Elmer, Katherine Delphine | Op. | | Boise, Idaho |
| Elmore, John Clifford | Agri. | Fr. | Star, Idaho |
| Elton, Everett Guy | C.E. | Fr. | The Dalles |
| Emery, Burdette | Com. | Jr. | Portland |
| Emmel, Royal Charles | M.E. | Fr. | Portland |
| Emmett, Paul Hugh | C.E. | So. | Portland |
| Emmrich, Arthur | C.E. | Fr. | Portland |
| Emrick, Daniel George | Min. | Fr. | Hillsboro |
| Enbusk, Frank Joseph | Com. | Fr. | Pendleton |
| Engelman, Zelma Marie | H.E. | Sp. | Ione |
| England, George Barron | I.A. | Vo. | Jamieson |
| English, Felix Albert | C.E. | Jr. | Salem |
| Ennes, Sam Irving | E.E. | Fr. | Portland |
| Epps, Grady David | Min. | So. | Henton, Okla. |
| Erickson, Frances Vivian | Com. | So. | Pacific Beach, Wash. |
| Erickson, John Edwin | Agri. | Vo. | Fairview |
| Erickson, Walter | Com. | Fr. | Warren |
| Eriksen, Norma Elizabeth | H.E. | Sr. | Orland, Cal. |
| Erwin, Dan Brewer | C.E. | Fr. | Hillsboro |
| Eslinger, Hazel | H.E. | Fr. | Grass Valley |
| Esterly, George Felix | Min. | Fr. | Waldo |
| Everett, Verne Frazier | Com. | Jr. | Portland |
| Ewing, Mary Arrisstiene | H.E. | Sr. | Grand Island, Neb. |
| Farley, Estey Roy | Com. | So. | Dallas |
| Farlow, Elbert Jewett | Phar. | Jr. | Ashland |
| Farnham, Hugh Wilson | Agri. | Vo. | Hillsboro |
| Farrell, Miller Starr | M.E. | Jr. | Portland |
| Farrington, Donald Homer | Agri. | Vo. | The Dalles |
| Faucett, Robert Lund | M.E. | So. | Stanfield |
| Fauley, Gordon Brown | Phar. | So. | Oregon City |
| Faust, Hulda Jeanette | Com. | Fr. | Portland |
| Faxon, Albert | Phar. | Fr. | Saticoy, Cal. |
| Fegley, Pearl | H.E. | Fr. | Corvallis |
| Feike, Geneva Alice | H.E. | So. | Portland |
| Feldhusen, John Sierk | Agri. | Jr. | Boise, Idaho |
| Felker, Maybelle | H.E. | Jr. | Portland |
| Feller, Harland Eugene | Agri. | Sp. | Hubbard |
| Fellows, Hurley | Agri. | Sr. | Hoff |
| Felton, Dannie Sherman | Agri. | Sp. | Corvallis |
| Fendall, Kenneth Duvall | Agri. | So. | Newberg |
| Fenstermacher, Harry | For. | Fr. | Fresno, Cal. |
| Ferero, Jaunita Permina | Com. | Vo. | Clackamas |
| Ferguson, Alice | H.E. | Sr. | Walla Walla, Wash. |
| Ferguson, Dwight Hayden | Agri. | Fr. | Portland |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-------------------------------------|-------------------|-------------|---------------------|
| Ferguson, Isabel | Com. | So. | Marshfield |
| Ferguson, Natalie | H.E. | Jr. | Walla Walla, Wash. |
| Ferrier, William Kenneth | C.E. | Fr. | Portland |
| Ferry, Ralph Roy | Agri. | Vo. | Alfalpa |
| Fields, Austin Monroe | M.E. | Fr. | Amity |
| Finch, Breynton Rikley | E.E. | Fr. | Ashland |
| Finch, Dora Alice | Com. | So. | Portland |
| Fine, Samuel | Agri. | Fr. | Attleboro, Mass. |
| Finlay, Edward Arthur | Agri. | Fr. | Silverton |
| Finley, Claire Sanborn | I.A. | Vo. | Portland |
| Finney, Edward | Agri. | Fr. | Astoria |
| Fischer, Ernest Edward | For. | Fr. | Milwaukie |
| Fischer, Jeane Cornine | H.E. | Sp. | Springfield |
| Fischer, Louis | C.E. | Jr. | Chicago, Ill. |
| Fish, Edward Hinsdale | Agri. | Fr. | Bandon |
| Fish, Florence | Phar. | So. | Bandon |
| Fish, Henry Whipperman | M.E. | Jr. | Albany |
| Fisher, Doris Winn | Com. | Fr. | Boise, Idaho |
| Fisher, Glenn Ellsworth | Agri. | Jr. | Haines |
| Fisher, Henry Clay | Min. | So. | Orchards, Wash. |
| Fisher, Leland Walden | Eng. | Sp. | Corvallis |
| Fite, Hazel Elnora | Com. | Sp. | Mt. Vernon, Mo. |
| Fite, Jerome Victor | Eng. | Sp. | Mt. Vernon, Mo. |
| Fitzgerald, James Edward | C.E. | Jr. | Sioux City, Iowa |
| Fjeldsted, Edward | Com. | Fr. | Preston, Idaho |
| Fjeldsted, Milford | Agri. | So. | Preston, Idaho |
| Flagg, Lawrence Miner | M.E. | Fr. | Olympia, Wash. |
| Fleming, Homer | Agri. | Sr. | Joseph |
| Fleener, Hazel Ilene | H.E. | Fr. | Salem |
| Fletcher, Orris | Com. | Sp. | Portland |
| Fletcher, Rita Belle | H.E. | Sr. | Corvallis |
| Fliegel, Joseph Frank | C.E. | Fr. | Salem |
| Flint, Julia Estella | H.E. | Sp. | Beaverton |
| Flint, Lawrence Benjamin | Agri. | Vo. | Beaverton |
| Flint, Mildred | Phar. | Fr. | Junction City |
| Florentino, Victorino Rivario | Com. | Fr. | Philippines |
| Floyd, Roy Earl | E.E. | Fr. | Enterprise |
| Fluor, Simon | Min. | Fr. | Santa Ana, Cal. |
| Flynn, Eleanor | Com. | Jr. | Eugene |
| Focht, John | M.E. | Fr. | Ballston |
| Foley, Margaret Ellen | H.E. | So. | Corvallis |
| Foley, Mary Johanna | H.E. | So. | Corvallis |
| Foley, Thomas George | Com. | Fr. | Portland |
| Folsom, Jean Jaques | Phar. | So. | Beaumont, Cal. |
| Fones, Gilbert Noll | Agri. | Fr. | Corvallis |
| Foote, Lucius | Com. | So. | Portland |
| Foote, Samuel Stanley | Com. | Fr. | Middleton, Idaho |
| Ford, Adrien McCrea | Agri. | Vo. | Astoria |
| Ford, Austin John | Engr. | Fr. | Pendleton |
| Ford, Bessie | Com. | Fr. | Portland |
| Ford, Kenneth | Agri. | Jr. | Union |
| Foreman, Byron Starr | Agri. | Sr. | Tacoma, Wash. |
| Forest, Mildred Marjorie | H.E. | Fr. | Delta, Utah |
| Forgey, Dell Dewey | Agri. | Vo. | Asotin, Wash. |
| Forrest, Raymond Thomas | E.E. | Fr. | Albany |
| Forrest, Ruth Elizabeth | H.E. | Fr. | Albany |
| Forrey, Ira Huber | Agri. | Jr. | Corvallis |
| Forrey, Elaine Ewell | H.E. | Sr. | Portland |
| Foster, Herbert | I.A. | Vo. | Portland |
| Foster, John Jacob | M.E. | So. | Portland |
| Foster, Wm. Harry | M.E. | Jr. | Portland |
| Fox, Wallace Melvin | I.A. | Jr. | Shepherd, Mich. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|---------------------|
| Fox, William Harold | Agri. | Sp. | Alhambra, Cal. |
| France, Frank Lloyd | Agri. | Fr. | Macon, Mo. |
| Franklin, George Harold | M.E. | Fr. | Portland |
| Franklin, Leon James | Agri. | Sp. | Keating |
| Franks, Lloyd Chester | Agri. | Vo. | Oakesdale, Wash. |
| Frantz, Jesse Dale | E.E. | Fr. | Marshfield |
| Franz, Clarence Dell | Com. | Fr. | Eugene |
| Frazier, Myra Ethel | Com. | So. | Salem |
| Frease, Helen Miriam | H.E. | Jr. | Corvallis |
| Fredell, George Herbert | Agri. | So. | Anaconda, Mont. |
| Fredenburg, Alethan Gertrude | Com. | Sp. | Butte Falls |
| Frederick, Marianne | Phar. | Sp. | Corvallis |
| Freeland, Elaine Olive | Com. | So. | Shedd |
| Freeland, Eugene Louis | C.E. | Sr. | Shedd |
| Freeman, Andrew Bert | Agri. | Sp. | Denver, Colo. |
| Freeman, Kelvin Burr | Com. | Vo. | Portland |
| Freeman, Lola | H.E. | Sr. | Central Point |
| Freeman, Pansy Ferne | Phar. | So. | Halsey |
| Freeman, Vernon Neale | Com. | So. | Moro |
| Freitas, Frances Edith | H.E. | So. | Corvallis |
| French, Clarence | Com. | Fr. | Wallowa |
| Friar, Otella | Com. | So. | Perrydale |
| Frink, Ellis | Min. | Jr. | Corvallis |
| Frink, Virgil Jewell | Phar. | So. | Philomath |
| Frisbie, Nathaniel Alfred | Agri. | Fr. | Rialto, Cal. |
| Fritz, Gilbert Edward | Agri. | So. | National City, Cal. |
| Frizzell, Jason Earl | Agri. | Sp. | Rickreall |
| Froome, Kathren | H.E. | Fr. | Athens |
| Fry, Orris Judah | Agri. | Jr. | Salem |
| Frye, Clayton | C.E. | Sp. | Portland |
| Frye, Clyde | E.E. | Fr. | Portland |
| Fryer, Claude Henry | Com. | Jr. | Portland |
| Fulkerson, Mary Evelyn | Com. | So. | Corvallis |
| Fulkerson, Hazel | H.E. | So. | Corvallis |
| Fuller, Lowell | Agri. | So. | Fresno, Cal. |
| Fuller, Martha Marguerite | H.E. | Fr. | Portland |
| Fulton, Helen Louise | | Op. | Corvallis |
| Fulton, Robert | Eng. | Fr. | Bend |
| Funk, Luther Lawrence | C.E. | Jr. | Sheridan |
| Funk, Vera | H.E. | Sr. | Corvallis |
| Furnish, Blanche Mildren | Com. | Fr. | Pendleton |
| Furnish, James Roy | Agri. | So. | Pendleton |
| Fuselman, Elizabeth Frances | H.E. | Fr. | Corvallis |
| Futtrup, Ellen Marie | Com. | Sr. | Vancouver, Wash. |
| Gabel, Ruth | H.E. | Fr. | Chehalis, Wash. |
| Gage, Dan Hughes | Com. | Vo. | Portland |
| Gage, Harold Lee | Min. | Jr. | Corvallis |
| Gain, Mertie Jane | Com. | Jr. | Gearhart |
| Gaither, James Terrance | Com. | Jr. | Toledo |
| Galbraith, Huxley Lyell | Agri. | Vo. | Woodburn |
| Gallier, Alice | Com. | Fr. | Bandon |
| Galligan, George Dudley | M.A. | Vo. | Hood River |
| Gallagher, Ambrose Patrick | Com. | Fr. | Rainier |
| Galluzzo, Agnes Agatha | H.E. | Fr. | Portland |
| Gamble, Margaret | H.E. | Fr. | Portland |
| Gaona, Elpidio Delmendo | Agri. | So. | Philippines |
| Gardner, Esther Marie | Com. | Jr. | Portland |
| Gardner, Helen Corinna | H.E. | Sr. | Portland |
| Garetson, Harlow | For. | Fr. | Cottage Grove |
| Garhardt, Malcolm | Com. | So. | Nobleville, Ind. |
| Garman, John | E.E. | So. | Portland |
| Garner, Lawrence Henry | E.E. | Vo. | Philomath |
| Garnjobst, Laura Florian | Phar. | Jr. | Salem |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|---------------------|
| Garnjobst, Martha Emma | Com. | Op. | Salem |
| Garrard, Isabelle Brown | Com. | Fr. | Corvallis |
| Garrard, Wayne | M.A. | Vo. | Oakville, Wash. |
| Gates, Donald Ewart | Com. | Vo. | Portland |
| Gaylord, Catherine | Agri. | Sp. | Tacoma, Wash. |
| Gaylord, Frank Mark | M.E. | Vo. | Tacoma, Wash. |
| Geer, Doris Emma | H.E. | Sp. | Ellendale, N. Dak. |
| Geiberger, Ray Chas. | Agri. | Fr. | Tualatin |
| Geiss, Anna | H.E. | Vo. | Milton |
| Geiss, Areta Lavone | H.E. | Sp. | Milton |
| Gentry, Emery Cyril | Agri. | So. | Heppner |
| George, Henry Lawrence | Agri. | Vo. | Heceta |
| George, Howard Stephens | Com. | Sr. | Lewiston, Idaho |
| Gervais, Louis | For. | Fr. | Sutherlin |
| Gibbons, James Lane | Agri. | Jr. | Corvallis |
| Gibbs, Priscilla Elizabeth | H.E. | Sp. | Hauser |
| Gibson, Jessie Gladys | H.E. | Fr. | Salem |
| Gibson, Robert Macon | I.A. | Sp. | Carlton |
| Giebisch, Gordon | C.E. | Fr. | Portland |
| Giesselman, John Frederick | Agri. | Fr. | West Orange, N. J. |
| Gilbert, Mrs. Annette | Com. | Sp. | Corvallis |
| Gilbert, Don Lewis | Phar. | So. | Tillamook |
| Gilbert, Philip Barton | For. | Fr. | Long Beach, Cal. |
| Gilbert, Ralph James | Phar. | Fr. | Woodburn |
| Gilbert, Walter | Phar. | Jr. | Albany |
| Gilbert, Warren Everett | Com. | Jr. | Mapleton |
| Gildersleeve, Charles Leland | C.E. | So. | Toledo |
| Giles, Mary Laura | | Op. | Chillawack, Canada |
| Gillfillan, Hobart Ralph | I.A. | Vo. | Portland |
| Gilkinson, William Bachelor | E.E. | Fr. | Hood River |
| Gilkey, Franklin Edgar | Agri. | Fr. | Scio |
| Gill, Harold David | E.E. | Fr. | Portland |
| Gill, Whitney George | Agri. | Jr. | Salem |
| Gillam, Herman | E.E. | So. | Amity |
| Gillette, Arthur Fay | Agri. | Jr. | La Verne, Cal. |
| Gillette, Cora | Agri. | Sp. | Gillette, Wis. |
| Gillette, Earl Jay | Agri. | Fr. | La Verne, Cal. |
| Gillette, Edith | H.E. | So. | La Verne, Cal. |
| Gilliam, Ardis Jack | I.A. | Vo. | Dallas |
| Gilliam, Merlie Althea | Com. | Sp. | Dallas |
| Gillis, Gene Alan | C.E. | Fr. | Portland |
| Gillride, Matt | Agri. | Sp. | Madison Lake, Minn. |
| Gilmore, Ruth Merle | Com. | Fr. | Junction City |
| Gilson, Rosa Elizabeth | Phar. | So. | Dallas |
| Gilstrap, Alice Gilstrap | H.E. | So. | Portland |
| Ginn, Richard Warner | Com. | Fr. | Moro |
| Gist, Floyd | Agri. | Fr. | Pomona, Cal. |
| Givan, Fay Augustus | Agri. | Fr. | Eagle Point |
| Glaser, John | Agri. | Jr. | Lebanon |
| Gleason, Bernie Edward | Agri. | Sr. | Jerico, Vt. |
| Gleeson, Marguerite | Com. | Sr. | Beaverton |
| Glenn, Francis McCartney | Agri. | Vo. | Merrill |
| Gloman, Joseph Storey | Agri. | Sr. | Bellingham, Wash. |
| Glossop, Corning Esmond | Com. | Fr. | Marshfield |
| Glossop, Herman Fred | C.E. | So. | Marshfield |
| Goddard, Dorothy Mary | H.E. | Vo. | Santicurium, Alaska |
| Godfrey, Herschel Frazier | Com. | Fr. | Raymond, Wash. |
| Goerig, Clara Minerva | H.E. | Fr. | Woodland, Wash. |
| Göetz, Carl Raymond | Agri. | So. | Portland |
| Goetz, Kenneth Harold | M.E. | So. | Portland |
| Goff, Othel Guy | E.E. | So. | Corvallis |
| Golden, Virgil Thomas | M.E. | Vo. | Salem |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| Goldstaub, Josephine Pearl | Phar. | So. | Portland |
| Gooch, Sylvia Geneva | Phar. | So. | Mill City |
| Good, Merrill Roy | C.E. | Fr. | Gresham |
| Good, Mervim Ray | Com. | Fr. | Gresham |
| Goodale, Chester Harold | Phar. | Fr. | Warrenton |
| Goodale, Harold Carlton | Agri. | Jr. | Anaheim, Cal. |
| Goodale, Ralph Herbert | Agri. | Fr. | Anaheim, Cal. |
| Godell, Stanley Edward | Com. | Fr. | Junction City |
| Goodrich, Dolph Allen | Agri. | Fr. | Dayton |
| Goos, George Botho | I. A. | Vo. | Corvallis |
| Gordon, Chester | Agri. | Vo. | Olympia, Wash. |
| Gorden, Robert Richard | E.E. | So. | Fort Klamath |
| Gordon, Wayne William | Phar. | So. | Caldwell, Idaho |
| Gossman, Spurgeon Sanford | Agri. | Sr. | Wyndmere, N. Dak. |
| Goudy, Elmer Raymond | Agri. | Fr. | Portland |
| Gould, Curtis Edwin | For. | So. | Hood River |
| Gould, Otis Oscar | C.E. | Fr. | Weston |
| Gouldthrite, Mervin Samuel | Agri. | Vo. | Los Angeles, Cal. |
| Gourley, Harold | Phar. | Fr. | Corvallis |
| Gove, Evadna Vesta | H.E. | Vo. | Portland |
| Gower, Gerald Raymond | Phar. | Fr. | Newberg |
| Grafton, Jack Holmes | Agri. | Sr. | Chehalis, Wash. |
| Gragasin, Calixto | Phar. | Fr. | Philippines |
| Gragg, Bessie | H.E. | So. | Corvallis |
| Gragg, George Steven | I.A. | Vo. | Corvallis |
| Graham, Carl Adams | Agri. | Vo. | Webster City, Iowa |
| Graham, Earl Alvin | Phar. | Sr. | Emmett, Idaho |
| Graham, Kenneth McGregor | Com. | Vo. | Portland |
| Grandy, Lewis Stephen | E.E. | So. | Eden, Wyo. |
| Grady, Lynn Wilfred | Agri. | So. | Eden, Wyo. |
| Granrud, Harold | C.E. | So. | Tacoma, Wash. |
| Grant, Mildred Harriet | H.E. | Jr. | Mulnomah |
| Grauer, John Jacob | Agri. | Vo. | Vancouver, B. C. |
| Gravell, William James | Agri. | Vo. | Portland |
| Graves, George Dewey | Com. | Fr. | Portland |
| Graves, Raymond Fred | Com. | Fr. | Filer, Idaho |
| Graves, Ronald | Com. | Fr. | Filer, Idaho |
| Gray, Clarence Julius | Com. | Sp. | Portland |
| Gray, Ethylwynne Glenva | H.E. | So. | Corvallis |
| Gray, John Clarence | E.E. | Fr. | Santa Rosa, Cal. |
| Gray, Joseph | M.E. | So. | Philomath |
| Gray, Leon George | Com. | Fr. | Corvallis |
| Gray, Louis Ernest | M.E. | Vo. | Corvallis |
| Graybill, Estelle Varell | Com. | Fr. | La Grande |
| Greatwood, Henry Royce | E.E. | Fr. | Portland |
| Green, Earnest Harold | M.E. | Vo. | Portland |
| Green, Ellsworth Nelson | M.E. | Sr. | Pasadena, Cal. |
| Green, Ferris Milton | Agri. | So. | Phoenix, Ariz. |
| Green, Fred Wendell | Agri. | Fr. | Alturas, Cal. |
| Green, Julia | H.E. | So. | Alturas, Cal. |
| Green, Marshall Byron | Min. | Sr. | Pasadena, Cal. |
| Green, Vera Mae | H.E. | Fr. | Albany |
| Green, Wellington Seth | Com. | So. | Pasadena, Cal. |
| Greene, Forrest Barton | C.E. | Fr. | Corvallis |
| Greer, Leonard King | Agri. | Vo. | Portland |
| Gregg, Glenn Harold | I.A. | Fr. | Salem |
| Gregg, Lloyd Bertrand | Com. | So. | Salem |
| Gregg, Margaret Davis | H.E. | Jr. | Adna, Wash. |
| Gregg, Vernon | Agri. | So. | Santa Ana, Cal. |
| Gribskov, Valborg | H.E. | So. | Junction City |
| Grider, Eddie Franz | Com. | So. | Elma, Wash. |
| Griffee, Willet | I.A. | Fr. | Corvallis |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|---------------------------|-------------------|-------------|---------------------|
| Griffith, Lewis | C.E. | So. | Salem |
| Grigwire, Edwin Forrest | Agri. | Vo. | Portland |
| Grimm, Frank Lawrence | C.E. | Op. | Preston, Idaho |
| Grimps, Katherine Emma | Com. | Fr. | Woodburn |
| Groce, Eustace Cecil | Com. | So. | Portland |
| Grooz, Myrtle | Com. | Vo. | Portland |
| Grove, Clark Donald | M.E. | Fr. | Amity |
| Grove, Maynard Oren | E.E. | Fr. | Amity |
| Groves, Frank William | Agri. | So. | Lebanon |
| Groves, Roshal Meryl | Agri. | Sr. | Lebanon |
| Grubb, Wendall | C.E. | So. | Halfway |
| Grubbe, Eugene Erle | Phar. | Sr. | Elkton |
| Gulliford, Daphne Marie | Com. | So. | Portland |
| Gulovsen, Helen Elizabeth | Com. | Fr. | Marshfield |
| Gunderson, Arthur | Agri. | Vo. | Astoria |
| Gunter, Gerald Emmet | Agri. | Sp. | Grants Pass |
| Gunter, Paul Albert | C.E. | Sp. | Gunter |
| Gurley, Wayne | E.E. | Sr. | Canby |
| Gurney, Edgar Dixon | Com. | Jr. | Eugene |
| Guston, Kenneth Plants | Com. | Fr. | Portland |
| Guthrie, Eunice Jane | H.E. | Sr. | Corvallis |
| Guttridge, Elva | Phar. | Fr. | Prairie City |
| Hachenev, Ernest Antone | Agri. | Fr. | Portland |
| Hackett, Joe | Com. | Sr. | Corvallis |
| Hadley, Marie Genevieve | Com. | Sp. | Eugene |
| Hagan, Harold Julian | Agri. | Vo. | Odell |
| Hagerup, Vincent Lorene | C.E. | So. | Astoria |
| Hahn, Rose Marie | H.E. | Fr. | Corvallis |
| Haight, Henry Myron | E.E. | Fr. | Saginaw |
| Haight, Mary Frances | Agri. | Fr. | Saginaw |
| Haines, Bernice Mae | H.E. | Jr. | Portland |
| Haines, Claire David | Agri. | Fr. | Canby |
| Haines, Harold Post | Com. | Vo. | Marshfield |
| Haldeman, William | C.E. | Vo. | Cottage Grove |
| Hale, Leslie Oliver | Agri. | Sp. | Portland |
| Hall, Bertrand Michel | Com. | Sp. | Portland |
| Hall, George Jay | Agri. | Sr. | Cottage Grove |
| Hall, Harold | Agri. | Sp. | Union |
| Hall, Hazel Audrey | H.E. | Fr. | Albany |
| Hall, Hildred Wanita | Mus. | Fr. | Cottage Grove |
| Hall, James Floyd | Com. | Sp. | Pendleton |
| Hall, John Hubert | M.E. | Fr. | Portland |
| Hall, Kenneth | M.E. | Jr. | Portland |
| Hall, Lester Elwin | Com. | Sp. | Corvallis |
| Hall, Mary | H.E. | Jr. | Alberta, Canada |
| Hall, Melvin Louis | C.E. | So. | Portland |
| Hall, Neill Dawson | M.E. | So. | Woodburn |
| Hall, Roland Arthur | M.A. | Vo. | Portland |
| Hall, Thorland Richey | Agri. | Jr. | Yakima, Wash. |
| Haller, Fern | H.E. | Sp. | Geneva, Neb. |
| Haller, Virgil Hall | Phar. | So. | Woodburn |
| Hallock, Floyd H. Wesley | For. | Fr. | Multnomah |
| Hamblen, Kenneth Earle | Min. | So. | Portland |
| Hamill, Robert Michel | Min. | Sp. | Portland |
| Hamilton, Mary Esabella | H.E. | Fr. | Albany |
| Hamilton, Wilbert Ernest | Com. | Vo. | Dallas |
| Hamm, Charles Henry | Agri. | Sp. | Seattle, Wash. |
| Hammond, Louise Kerr | H.E. | Jr. | Hubbard, Ohio |
| Hammond, Vincent Ward | Agri. | Sp. | Ashland |
| Hamner, Dyson Swenson | M.E. | Fr. | Corvallis |
| Hampton, Ray Benjamin | Agri. | Fr. | Randle, Wash. |
| Hampton, Thomas Eugene | Agri. | Jr. | Pendleton |
| Hannon, Tommie | Com. | Vo. | Corvallis |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|---------------------|
| Hansen, James | Agri. | Sp. | Astoria |
| Hansen, Leon Lloyd | I.A. | Vo. | Salem |
| Hanshaw, Marion Aura | Com. | Sp. | Corvallis |
| Hanson, Ernest Arthur | Com. | Sp. | Portland |
| Hanson, Opal Beatrice | H.E. | Fr. | Boone, Iowa |
| Harbke, Helen Mate | Com. | Jr. | Maryhill, Wash. |
| Hardebeck, Clarence William | M.E. | So. | Silley |
| Hardie, Alexander Dewey | Agri. | So. | Condon |
| Harding, Ellis Blackwell | E.E. | Fr. | Corvallis |
| Hardy, Melbourne Edward | Agri. | Vo. | Portland |
| Hargett, Ralph Eugene | Phar. | Fr. | Holdman |
| Hargrove, Vivian | | Opt. | Salem |
| Harnisch, Henry | M.E. | Fr. | Albany |
| Harnish, Margaret Frances | H.E. | Fr. | Myrtle Point |
| Harper, Robert McCreary | Agri. | Fr. | Gervais |
| Harper, Roy | E.E. | So. | Woodburn |
| Harper, Vernon Willard | M.E. | So. | Corvallis |
| Harper, Wilbur Milton | I.A. | Vo. | Corvallis |
| Harper, Wm. Geo. | Agri. | So. | Corvallis |
| Harris, Arthur | Agri. | Fr. | Corvallis |
| Harris, George Leach | C.E. | Fr. | Mapleton, Iowa |
| Harris, Herbert Virginius | E.E. | Jr. | Oregon City |
| Harris, Lillian | Com. | Fr. | Oregon City |
| Harris, Russell Lowell | C.E. | So. | Central Point |
| Harrison, Richard | Min. | Fr. | Gervais |
| Harshberger, Mervin Leonard | Min. | Fr. | McMinnville |
| Harshberger, Ruth Hazel | H.E. | Fr. | Portland |
| Hartman, Orville Ernest | Agri. | Jr. | Boise, Idaho |
| Hartmann, Charles Harold | Agri. | Sr. | Hollister, Cal. |
| Hartung, Frederick Elmer | Agri. | So. | Eugene |
| Harvey, Joseph Paul | C.E. | Sr. | Corvallis |
| Haskell, Eleanor Lorada | H.E. | Fr. | Portland |
| Haslem, Walter | Com. | Fr. | Cathlamet, Idaho |
| Hastings, Roger Warren | E.E. | Fr. | Portland |
| Hatfield, Clifford Olcott | Phar. | So. | Central Point |
| Hathaway, Gail Abner | C.E. | So. | Harrisburg |
| Hathaway, Lois Reta | H.E. | Sr. | Corvallis |
| Hathaway, Otto Emerson | Com. | So. | Corvallis |
| Hathaway, Rudolph Edison | Agri. | Fr. | Corvallis |
| Hauge, Osmond Johann | Agri. | Jr. | Woodburn |
| Hauser, Hazel Catherine | H.E. | Fr. | Baker |
| Haverfield, Roy Hansel | Com. | Fr. | Weiser, Idaho |
| Hawk, Ralph Ellsworth | Agri. | Vo. | Bellingham, Wash. |
| Hawley, Francelle | H.E. | Sr. | McCoy |
| Hayden, Erma Eileen | Com. | Fr. | Creston, B. C. |
| Hayden, Harry Morgan | E.E. | Fr. | Bend |
| Hayes, Gladys Ruth | Com. | Vo. | Portland |
| Hayes, Ruth Edna | H.E. | Fr. | Portland |
| Hayes, William Brewster | Agri. | Jr. | Pasadena, Cal. |
| Haynes, Joe David | Agri. | So. | The Dalles |
| Haynes, Merle Gilbert | Agri. | Fr. | Corona, Cal. |
| Haynes, Ross Eaton | Com. | Fr. | Lebanon |
| Hayslip, Earle | For. | Sp. | Vancouver, Wash. |
| Hazen, Oliver Miner | Com. | Fr. | Snohomish, Wash. |
| Hazen, Winifred | H.E. | Jr. | Snohomish, Wash. |
| Healea, Harvey Thomas | Agri. | Fr. | Astoria |
| Healey, Roger Dewey | For. | Jr. | Langford, S. Dak. |
| Hearn, Berthold Edgar | Com. | Fr. | Phoenix, Ariz. |
| Hearn, Mabel Irene | Com. | Fr. | Phoenix, Ariz. |
| Heath, Gay | Agri. | Fr. | Portland |
| Heath, James Adrian | For. | Sp. | Raymond, Wash. |
| Heckart, Vernon | I.A. | Vo. | Corvallis |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|---------------------|
| Hedberg, Clarence Elwood | Com. | Sp. | Ashland |
| Heerdt Henry Victor | M.E. | Fr. | Oregon City |
| Heiss, William | Agri. | Jr. | Corvallis |
| Heltmeyer, Powis Lee | Phar. | Fr. | Albany |
| Helm, George Darby | | Sp. | Dallas, Tex. |
| Helm, George Price | E.E. | Fr. | Hillsboro |
| Helmer, Oscar Marvin | C.E. | So. | Portland |
| Hembling, Grace | H.E. | Sp. | Houlton |
| Henderson, Blanche Olive | Com. | Sp. | Portland |
| Henderson, Gene | Com. | So. | Waterville, Wash. |
| Henderson, George | Com. | Jr. | Barstow, Cal. |
| Henderson, Winifield Lester | Agri. | Sr. | Waterville, Wash. |
| Hendricks, Ida Belle | H.E. | Jr. | Woodburn |
| Hennagin, Pearl | H.E. | So. | Moro |
| Henry, Max | Agri. | Vo. | Jerome, Idaho |
| Hensley, Hilda Belle | Com. | Fr. | North Bend |
| Hercher, Walter Emil | Agri. | Fr. | Dillard |
| Hermann, Otto Henry | C.E. | So. | Astoria |
| Herron, Paul Alon | For. | Fr. | Portland |
| Hershner, Frances Marion | C.E. | So. | Portland |
| Hesse, Victor Otto | C.E. | So. | Portland |
| Heslin, John Caryl | M.E. | Fr. | Fairview |
| Hesseltine, Earl Handley | Agri. | Jr. | Tulare, Cal. |
| Heston, Alfred Canby | Agri. | Fr. | Portland |
| Hetrick, Nellie Dixon | H.E. | Fr. | Parma, Idaho |
| Hewett, Opal Edna | Phar. | Fr. | Independence |
| Hewitt, Thomas Henry | For. | Fr. | Portland |
| Heyden, Theodore | Agri. | Fr. | Pendleton |
| Hickerson, Leonard Allen | I.A. | Vo. | Salem |
| Heckethier, Carl Richard | Agri. | Vo. | Portland |
| Hicking, William Henry | Phar. | Fr. | Bandon |
| Hickok, Clarence William | M.E. | Sp. | McMinville |
| Hicks, Hazel Ione | H.E. | Sr. | Weiser, Idaho |
| Hicks, Jessie Rae | Com. | So. | Woodburn |
| Hicks, Karl | C.E. | Fr. | Milton |
| Higby, Katherine | H.E. | So. | Forest Grove |
| Hildebrand, Frank | Com. | So. | Astoria |
| Hilder, Leslie Vernon | I.A. | Vo. | Placerville, Cal. |
| Hill, Alfred | C.E. | So. | Wilbur |
| Hill, Delta Mary | Com. | Fr. | Ontario |
| Hill, Elizabeth Stewart | Com. | So. | Medford |
| Hill, Fay Denton | M.E. | Fr. | The Dalles |
| Hill, Grace Inez | H.E. | Fr. | Portland |
| Hill, Samuel Vincent | M.E. | Vo. | Colton |
| Hill, William Harold | Agri. | Sp. | Eugene |
| Hillman, Bertha Lynn | Com. | Sp. | Estacada |
| Hillstrom, Rudolph John | M.E. | So. | Marshfield |
| Hinkle, Vall Alfred | M.E. | Vo. | Mill City |
| Hirsch, Abe Leonard | C.E. | Fr. | Portland |
| Hixon, Augustus | E.E. | Fr. | Portland |
| Hoag, Joe Burrows | Agri. | Vo. | Portland |
| Hoar, Glenn Leland | Agri. | Fr. | Forest Grove |
| Hobart, Alvin Dewey | Agri. | Jr. | Silverton |
| Hobart, Anna Marie | H.E. | Fr. | Silverton |
| Hobson, Frank Alfred | Min. | Jr. | Corvallis |
| Hobson, Henry David | Min. | Fr. | Corvallis |
| Hochstetler, Simon | Agri. | Vo. | Woodburn |
| Hodler, Albert | Agri. | Sp. | Portland |
| Hoefflein, Charles Clinton | M.E. | Fr. | Eugene |
| Hoefler, Myron Page | Com. | So. | Astoria |
| Hoffer, Dan | C.E. | Fr. | Eugene |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|---------------------------|-------------------|-------------|---------------------|
| Hoffman, Emmett Merle | Com. | So. | Grants Pass |
| Hoffman, Frank Richard | Agri. | Vo. | Passaic, N. J. |
| Hoflish, Anna Irene | Com. | So. | Albany |
| Hoffman, Elvin | | Opt. | Long Beach, Cal. |
| Hoffman, Olivia | H.E. | Fr. | Bacona |
| Hogg, John Glenn | Agri. | So. | Salem |
| Hogg, Ronald Valentine | Agri. | Fr. | Salem |
| Hogshire, Joann | H.E. | Jr. | Portland |
| Holbrook, Dewitt Clinton | Agri. | So. | Durkee |
| Holcomb, Alice Edna | Com. | So. | Portland |
| Holcomb, Fern | Com. | So. | Cottage Grove |
| Holden, Donald Franklin | Agri. | So. | Portland |
| Holgate, Leo Lester | Com. | Fr. | Sutherlin |
| Holker, Thomas Booth | Agri. | Sr. | Tostin, Mont. |
| Hollenberg, Frank | Agri. | Fr. | Corning, Cal. |
| Hollinger, Mertroe Wenn | Com. | Fr. | Long Beach, Cal. |
| Holman, Cecilia Helen | Com. | So. | Portland |
| Holman, Erma La Verne | H.E. | Fr. | Albany |
| Holman, Roy Robert | E.E. | Fr. | Hood River |
| Holmes, Estrid | Com. | Fr. | Marshfield |
| Holmes, Florence | Agri. | Sr. | Portland |
| Holmes, H. P. | Min. | Sr. | Corvallis |
| Holmes, Horace | Agri. | So. | Palermo, Cal. |
| Holmes, Joseph Folger | For. | Sr. | Oakland, Cal. |
| Holmes, Lee Stanley | For. | So. | Portland |
| Holmes, Margaret Coleman | H.E. | Sp. | Bostwick, Neb. |
| Holmes, Mary Achsah | H.E. | Fr. | Medford |
| Holmes, Mary Vincent | Phar. | Jr. | Portland |
| Holmes, Oliver Wendell | M.E. | Vo. | Portland |
| Holmes, Volney Eugene | Agri. | So. | Shedd |
| Holroyd, Harry Wilson | C.E. | Fr. | Corvallis |
| Holroyd, Imojean | H.E. | Sr. | Corvallis |
| Holt, Willard Cleters | Com. | Vo. | Scio |
| Hombel, Harris Arnold | Com. | Fr. | Enterprise |
| Hongell, George Gritchuff | Min. | So. | Marshfield |
| Hood, Ross | Com. | Fr. | Wallowa |
| Hooper, Lester Elmer | Agri. | Vo. | Amboy, Wash. |
| Hoopes, Byron Jennings | M.E. | So. | Seaside |
| Hooton, Arthur | E.E. | So. | Coquille |
| Hoover, Bessie Ellen | H.E. | Jr. | Albany |
| Hoover, Theron Curtis | Agri. | Fr. | Salem |
| Hope, Mazie | H.E. | Fr. | Vale |
| Hopkins, Fred | M.E. | Vo. | Corvallis |
| Hopkins, Herlinn Gates | Min. | So. | Portland |
| Hopkins, Horace Lewellyn | Agri. | Jr. | Corvallis |
| Hopkins, Lynn Blair | Phar. | So. | Corvallis |
| Hopper, Richard Homer | E.E. | Fr. | Pendleton |
| Horning, Gladys Louise | H.E. | Sr. | Corvallis |
| Horseman, Theron Eugene | M.E. | Fr. | Portland |
| Hostetler, Jonathan Ray | M.E. | Fr. | Hubbard |
| Houck, Agnes Catherine | H.E. | Sr. | Portland |
| Houck, John Edwin | Com. | Jr. | Portland |
| Houston, Orage | Agri. | Vo. | Eagle Point |
| Hovenden, Grace Bonita | H.E. | So. | Portland |
| Howard, Clement | Com. | Jr. | Portland |
| Howard, Clifton | Phar. | Fr. | Lakeview |
| Howard, Dale | Agri. | Sr. | McMinnville |
| Howard, Harold | For. | Fr. | Junction City |
| Howard, Wesley | I.A. | Vo. | Corvallis |
| Howd, Otis Theron | Agri. | Vo. | Dryad, Wash. |
| Howell, Kenneth Preston | E.E. | Fr. | St. Helens |
| Howell, Leston Wayne | E.E. | Fr. | Jefferson |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| Howell, Martha Nadine | H.E. | Vo. | Corvallis |
| Howey, Mary Olive | H.E. | Jr. | Corvallis |
| Howland, Eleanor | Com. | Fr. | Portland |
| Howser, Chester | Com. | Vo. | Corvallis |
| Howser, Lola Madelene | Com. | Fr. | Ontario |
| Hoyt, Myron Sears | M.E. | Fr. | Hood River |
| Hubbard, Clyde | Phar. | Sr. | Corvallis |
| Hubbard, Eugene Field | Agri. | So. | Corvallis |
| Hubbard, Ina Mary | Phar. | Jr. | Rickreall |
| Hubbard, Roland Isabel | Agri. | So. | Medford |
| Hubbard, Walter Philip | Agri. | So. | Monroe |
| Hudson, Clyde | C.E. | So. | Cloverdale |
| Hudson, Emil Paul | C.E. | So. | Crabtree |
| Hudson, Leland Clinton | M.E. | Vo. | Tacoma, Wash. |
| Huffaker, Neal McMillan | M.E. | Jr. | Corvallis |
| Hughes, Robert Emmett | Phar. | Jr. | Heppner |
| Hughson, Elizabeth Laurana | H.E. | Fr. | Corvallis |
| Hukill, Bertha Esther | H.E. | Fr. | Corvallis |
| Hukill, William Virgil | M.E. | Fr. | Corvallis |
| Hull, Howard Lawrence | E.E. | Fr. | Oregon City |
| Hultquist, Franz Leonard | M.E. | So. | Portland |
| Humfeld, Harry | Agri. | Jr. | Portland |
| Humfeld, Marie Katherine | Op. | | Stanfield |
| Humphrey, Edward Kinsel | C.E. | Vo. | Corvallis |
| Humphrey, Fred Homan | Com. | Vo. | Portland |
| Humphrey, Indiannus Andrew | Agri. | So. | Corvallis |
| Humphrey, Winifred Earl | E.E. | So. | Klamath Falls |
| Humphreys, Grace Kathryn | Com. | Fr. | Shaw |
| Humphreys, Malcolm Norris | E.E. | Fr. | Ashland |
| Humphrey, Nellie Luceille | H.E. | Sp. | New Plymouth, Idaho |
| Hunsperger, Elsie Irene | H.E. | Vo. | Corvallis |
| Hunsperger, Nora Violet | H.E. | So. | Corvallis |
| Hunstock, Parham | M.E. | Sp. | Baker |
| Hunter, Guy Edwin | Com. | Fr. | Twin Falls, Idaho |
| Hunter, Isaac Harvey | M.E. | Vo. | Arlington, Wash. |
| Huntington, Mary | H.E. | So. | Yoncalla |
| Huntington, Sara | H.E. | So. | Yoncalla |
| Hurd, Clinton Tennyson | E.E. | Fr. | Aberdeen, Wash. |
| Hurd, Mildred Grace | H.E. | Fr. | Portland |
| Hurner, Frank Joe | M.E. | Sr. | Carlton |
| Hurt, Dorothea Martha | Com. | Vo. | Corvallis |
| Husbands, Emily Rozella | H.E. | Jr. | Mosier |
| Husby, Earl Alder | Min. | Fr. | Portland |
| Husted, Viola Belle | Com. | Fr. | Ontario |
| Hutchins, Gladys Georgene | H.E. | Sr. | Portland |
| Hyatt, Waldson | C. E. | So. | Willamette |
| Hyde, Wallace Edward | Agri. | Sp. | Oakland, Cal. |
| Hyde, James | Min. | Sr. | Portland |
| Hylander, Grant Oberlin | Com. | Fr. | Portland |
| Imbrie, James Hay | Agri. | Vo. | Hillsboro |
| Immel, Helen Valentine | H.E. | So. | Oakland, Cal. |
| Ingalls, Darwin Albert | E.E. | Jr. | Grants Pass |
| Ingham, Emery Claire | C.E. | So. | Portland |
| Ingram, Fred | C.E. | So. | Monroe |
| Inman, Benjamin Harrison | M.E. | Vo. | Adams |
| Inman, Weslin Oliver | M.E. | Jr. | Tenino, Wash. |
| Innes, Wells | Com. | Vo. | Santa Ana, Cal. |
| Ireland, David Kenneth | Com. | Jr. | Bellingham, Wash. |
| Ireland, Edith | H.E. | Sr. | Portland |
| Ireland, Marjorie Alice | | Opt. | Pendleton |
| Ireland, Orlin Le Roy | Phar. | Sr. | Portland |
| Irwin, John Forster | Agri. | Fr. | Corvallis |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------------|-------------------|-------------|---------------------|
| Irwin, Ordo William | Min. | So. | Oakley, Kans. |
| Irwin, Rose Catherine | H.E. | Sp. | Corvallis |
| Isaacson, Myrtle Clarinda | H.E. | So. | Marshfield |
| Isom, Gail | Com. | Fr. | Portland |
| Jackman, Edwin Russell | Agri. | Jr. | Kalispell, Mont. |
| Jackman, Louise | Com. | So. | Lynden, Wash. |
| Jackman, Orel Eva | H.E. | Jr. | Lynden, Wash. |
| Jackson, Albert Russell | Agri. | Fr. | Portland |
| Jackson, Dean Burdett | M.E. | Fr. | Baker |
| Jackson, Josephine | Com. | Fr. | Lorane |
| Jackson, Mildred Mae | Com. | So. | Corvallis |
| Jackson, Roy Eynar | Com. | Fr. | Molalla |
| Jackson, Thomas Scot | M.E. | Vo. | Condon |
| Jackson, Vern Mervin | E.E. | Fr. | Hebo |
| Jacobson, Alvin | M.E. | Fr. | La Grande |
| Jacobson, Elna Emelia | Com. | So. | Astoria |
| James, Eshter Isabelle | Anderson | H.E. | Salem |
| James, Harden Luther | Phar. | So. | Rainier |
| James, Oscar William | I.A. | Sr. | Applegate |
| James, Wright Elwood | Min. | Fr. | Compton, Cal. |
| Jamieson, Edna Vere | H.E. | So. | Jewell |
| Jamieson, Frank James | Agri. | Vo. | Jewell |
| Jarmin, Marc Burdette | Phar. | Fr. | Litchfield, Neb. |
| Jarvis, Fred Albert | Agri. | Vo. | Myrtle Point |
| Jasper, Merrill Clair | M.E. | Jr. | Caldwell, Idaho |
| Jefferies, Alfred | M.E. | Sp. | McMinnville |
| Jenkins, Boyd Trevalin | Phar. | Fr. | Hood River |
| Jenkins, Doris Mildred | H.E. | Jr. | Los Angeles, Cal. |
| Jenkins, John Donald | C.E. | Sr. | Los Angeles, Cal. |
| Jenkins, Orville Pry | M.E. | Vo. | Riggins, Idaho |
| Jenks, Hallie Margaret | Com. | Vo. | Tangent |
| Jenks, James William | Phar. | Fr. | Tangent |
| Jenks, Marylee | H.E. | Jr. | Tangent |
| Jennings, Charles Ross | Com. | Fr. | Perrydale |
| Jennings, Evangeline | H.E. | So. | Salem |
| Jennings, John William | I.A. | Vo. | Tillamook |
| Jennings, Richard | M.E. | Fr. | Portland |
| Jensen, Jens | Agri. | Vo. | Denmark |
| Jensen, Margery Roe | Com. | Vo. | Junction City |
| Jensen, Noel Cecil | M.E. | So. | Corvallis |
| Jensen, Lyle | Eng. | Vo. | Portland |
| Jensen, Willard | M.E. | Fr. | Corvallis |
| Jeppesen, Einer | Phar. | Fr. | Bacona |
| Jeppesen, John | Agri. | So. | Bacona |
| Jerauld, Henry Franklin | C.E. | Fr. | Sacramento, Cal. |
| Jernsteat, Leonard | Agri. | Jr. | Carlton |
| Jessen, Ralph | Agri. | Jr. | Piedmont, Cal. |
| Jessup, Gertrude Latta | H.E. | Sp. | Sacramento, Cal. |
| Jessup, George Le Roy | Agri. | Sr. | Portland |
| Jewel, Paul | Phar. | Sr. | Corvallis |
| Joe, Kenneth Francis | C.E. | Fr. | Portland |
| John, Helen | Com. | Jr. | Corvallis |
| Johnsen, Alfred James | M.E. | Fr. | La Grande |
| Johnson, Adell | Com. | Sp. | Corvallis |
| Johnson, Albert Douglas | Min. | Fr. | Newberg |
| Johnson, Andrew Martin | Com. | Vo. | Portland |
| Johnson, Arthur Alvah | Agri. | Vo. | Echo |
| Johnson, Carl Joseph | Min. | Fr. | Sheridan |
| Johnson, Clarence Brainard | Agri. | Vo. | Portland |
| Johnson, Charles Fred | Com. | Fr. | Hood River |
| Johnson, Earl | Agri. | So. | Portland |
| Johnson, Edith Olive | Com. | Fr. | Linnton |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|---------------------|
| Johnson, Ellen Otten | H.E. | Jr. | Portland |
| Johnson, Elmer Carl | E.E. | Fr. | Portland |
| Johnson, Elmer John | M.E. | Fr. | Marshfield |
| Johnson, Farris | Agri. | Fr. | Wenatchee, Wash. |
| Johnson, Frances Irene | Com. | So. | Portland |
| Johnson, Franklin Whitcomb | C.E. | Sp. | Portland |
| Johnson, Gladys Viola | H.E. | Jr. | Scappoose |
| Johnson, Hadden Lawrence | Phar. | Fr. | Boring |
| Johnson, Harold William | I.A. | Vo. | Mulino |
| Johnson, Hazel Alice | H.E. | Fr. | Newberg |
| Johnson, Helen | Com. | Fr. | Portland |
| Johnson, John Iver | Agri. | Sr. | Winlock, Wash. |
| Johnson, Loren | Agri. | Jr. | Scappoose |
| Johnson, Lester James | Agri. | Fr. | Santa Cruz, Cal. |
| Johnson, Margaret Alpheiddin | Agri. | Fr. | Canada |
| Johnson, Martin Fredrick | I.A. | Vo. | Mulino |
| Johnson, Mildred Lewis | Agri. | Sr. | St. Paul, Minn. |
| Johnson, Orlie Orton | Com. | Fr. | Corvallis |
| Johnson, Raymond Marvin | Phar. | Fr. | Colton |
| Johnson, Robert | Com. | Fr. | Redmond |
| Johnson, Roscoe Raymond | Com. | Vo. | Corvallis |
| Johnson, Ture Harold | M.E. | So. | Woodburn |
| Johnson, Victor William | C.E. | Fr. | Portland |
| Johnson, Winfield Haaken | E.E. | Jr. | Linnton |
| Johnston, Charles | For. | So. | Yankton |
| Johnston, Clarence | For. | So. | Portland |
| Johnston, John Irl | Com. | Fr. | Parma, Idaho |
| Johnston, Ruth | Com. | So. | Corvallis |
| Jones, Allan Vergil | Com. | So. | Salem |
| Jones, Chester Lawrence | For. | Fr. | Medford |
| Jones, De Witt Clinton | For. | Fr. | Fort Wayne, Ind. |
| Jones, Edw. Dee | M.E. | Jr. | Corvallis |
| Jones, Floyd Clark | E.E. | Fr. | Airlie |
| Jones, Frieda Buryl | Com. | Jr. | Corvallis |
| Jones, George Alfred Arnold | Min. | Fr. | Rockaway |
| Jones, Helen Maurine | Com. | So. | Vale |
| Jones, Howard Gaylor | Agri. | So. | Albany |
| Jones, James Gordon | Agri. | So. | Gervais |
| Jones, John | For. | Fr. | Oakland |
| Jones, Kenneth Walter | Com. | Vo. | Camas, Wash. |
| Jones, Lloyd Moore | I.A. | Vo. | Sherwood |
| Jones, Margaret Frances | H.E. | Jr. | Corvallis |
| Jones, Neil Willis | I.A. | Vo. | Union |
| Jones, Noah | For. | So. | Taylorville, Ind. |
| Jones, Paul Frank | E.E. | So. | Seattle, Wash. |
| Jones, Reece Hamilton | Agri. | Fr. | Salem |
| Jones, Teddy Roosevelt | I.A. | Fr. | Jefferson |
| Jones, Theron | Agri. | Sp. | Corvallis |
| Jones, William Conrad | Agri. | Jr. | Ottawa, Kans. |
| Jones, William Hugh | C.E. | So. | Portland |
| Jones, Winnifred | H.E. | So. | Portland |
| Joplin, Ed Ray | M.E. | Sp. | Knappa |
| Jordan, John Cecil | M.E. | Sp. | Boise, Idaho |
| Josephson, Ethel Margaret | Com. | So. | Marshfield |
| Jower, Henry William | M.E. | Jr. | Portland |
| Jower, Joseph Alfred | C.E. | Fr. | Portland |
| Joy, Allan Rensalear, Jr. | Agri. | Sp. | Portland |
| Joy, Kenneth Dayton | C.E. | Sp. | Portland |
| Judie, Marie | H.E. | Sp. | Medford |
| Judy, John Wesley | Com. | So. | Medford |
| Kaegi, Morrice | Phar. | Sr. | Ashland |
| Kaesser, Pearl Edna | H.E. | Fr. | Hood River |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|---------------------------|-------------------|-------------|---------------------|
| Kain, Wayne Elwyn | M.E. | Fr. | Portland |
| Kamrath, Fred Julius | Agri. | So. | Oregon City |
| Karn, Marion Estella | H.E. | Fr. | Parma, Idaho |
| Kasberger, Joseph Michael | Agri. | So. | The Dalles |
| Katz, Frank Fred | For. | Vo. | Brooklyn, N. Y. |
| Kaufmann, Charles Edward | M.E. | Vo. | Pt. Gray, B. C. |
| Kayler, Earl Robbins | I.A. | Vo. | Molalla |
| Kearney, James Lorenzo | E.E. | Fr. | Osage, Iowa |
| Keatley, Robert Leland | Agri. | So. | Castle Rock, Wash. |
| Kechritz, Edwin Adrie | Phar. | Fr. | Union |
| Keebler, Bessie Fern | Com. | Fr. | Lebanon |
| Keene, Roy Servais | Agri. | Jr. | Salem |
| Keeney, Floyd Lester | Phar. | So. | Rockford, Wash. |
| Keil, Gay Elizabeth | Com. | Vo. | Cosmopolis, Wash. |
| Keil, William Frederick | Agri. | So. | Cosmopolis, Wash. |
| Keller, Eugene John | Agri. | Sr. | Newberg |
| Keller, Robert John | M.E. | Fr. | Ashland |
| Kelleway, Duane Stanely | M.E. | Fr. | Corvallis |
| Kelleway, Helen | H.E. | So. | Corvallis |
| Kelley, Frank Bernard | Phar. | Fr. | Cove |
| Kelley, Vera May | H.E. | So. | Portland |
| Kellogg, Chandler | Com. | Jr. | Los Angeles, Cal |
| Kellogg, Karl Francis | Agri. | So. | Eugene |
| Kellogg, Mark James | Agri. | So. | Fresno, Cal. |
| Kellum, Kenneth Noah | Agri. | Fr. | Long Beach, Cal. |
| Kelly, Alden | M.E. | Vo. | Jennings Lodge |
| Kelly, Fred | Agri. | Fr. | Portland |
| Kelly, William Clinton | For. | Fr. | Portland |
| Kelsey, Hazel | H.E. | Sr. | Columbia City, Ind. |
| Kelso, Gordon Francis | Com. | So. | Junction City |
| Kem, Victor Randolph | I.A. | Vo. | Cottage Grove |
| Kennedy, Charlie | Agri. | Vo. | Forest Grove |
| Kennedy, David Honore | Agri. | So. | Portland |
| Kennedy, John June | M.E. | Vo. | Mabel |
| Kennedy, Ruth Henrietta | H.E. | Sr. | Corvallis |
| Kent, Oren Merrill | M.E. | Vo. | Brownsville |
| Kephart, Olga Ahlson | H.E. | So. | Hillsdale |
| Keppinger, Verna | H.E. | Sr. | Gervais |
| Kerr, Claude | For. | So. | Oregon City |
| Kerr, Genieve | H.E. | Jr. | Corvallis |
| Kerr, James Eastham | Min. | Fr. | La Grande |
| Kerr, Lavena Vivienne | H.E. | Fr. | Milwaukie |
| Kerr, Moyt Warrior | Phar. | Vo. | Corvallis |
| Kessi, Elizabeth | H.E. | Jr. | Corvallis |
| Kessi, William | Agri. | Fr. | Harlan |
| Keys, Malcolm Ewart | C.E. | Fr. | Richmond |
| Keys, Robert William | Agri. | Fr. | Richmond |
| Kibby, James Willard | Agri. | Vo. | North Bend |
| Kies, Gladys Ruth | H.E. | Jr. | Vancouver, Wash. |
| Kies, Helen Louise | H.E. | Fr. | Vancouver, Wash. |
| Killen, Helen Elizabeth | Com. | Vo. | Hillsboro |
| Kidder, Russell Bradford | E.E. | Fr. | Sheridan |
| Kimball, Edward Lewis | Com. | Sp. | Fall Creek |
| Kimmel, Jesse Carl | C.E. | Fr. | Estacada |
| Kimzey, Robert | Com. | Sr. | Prairie City |
| Kincaid, Marion George | M.E. | Fr. | Corvallis |
| Kincaid, Minnie Leora | H.E. | Jr. | Corvallis |
| Kincaid, Trevor McKibben | C.E. | Fr. | Portland |
| Kinch, Francis Murton | Com. | Fr. | Snohomish, Wash. |
| Kinder, William Dale | Agri. | So. | Prescott, Wash. |
| King, Florence Kathleen | Com. | So. | Corvallis |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|-----------------------|
| King, Helen | Com. | So. | Salem |
| King, Jacob Boyde | I.A. | Jr. | Portland |
| Kingsbury, Maud | H.E. | Fr. | Vancouver, Wash. |
| Kinney, Eleanor Virginia | Com. | Vo. | Colby, Wash. |
| Kirk, Arthur Romine | Agri. | So. | Milton |
| Kirk, Delbert | Agri. | Jr. | Manovia, Cal. |
| Kirk, Thomas Sample, Jr. | Agri. | Fr. | Bozeman, Mont. |
| Kirkendall, William Shammo | Com. | Fr. | Wenatchee, Wash. |
| Kirkham, Arthur Robinson | Com. | Vo. | Portland |
| Kirkpatrick, Harlan Tiller | M.E. | Fr. | Portland |
| Kirkwood, Ersel Francis | M.E. | Vo. | Salem |
| Kirkwood, Joseph Edward | I.A. | Vo. | Salem |
| Kiser, Howard James | M.E. | Vo. | Washougal, Wash. |
| Kittredge, Marie Emma | Com. | Fr. | Corvallis |
| Kizer, Marion Porter | Agri. | Fr. | Albany |
| Klages, Karl Henry William | Agri. | Jr. | Corvallis |
| Kleman, Carl Samuel | M.E. | Jr. | Jerome, Idaho |
| Klingele, Louie Paul | E.E. | So. | Salem |
| Klink, Chester Arthur | M.E. | Jr. | Portland |
| Knapp, Howard Seymour | M.E. | Sp. | Davenport, Wash. |
| Knapp, Lloyd | Agri. | So. | Port Orford |
| Knapp, Orris | E.E. | Fr. | Port Orford |
| Knapp, Veva Ella | H.E. | So. | Camas, Wash. |
| Knickerbocker, Rae Kathryn | Com. | Fr. | Redmond |
| Knight, Edwin | Agri. | Fr. | San Luis Obispo, Cal. |
| Knight, Hugh McCollough | I.A. | Vo. | Dufur |
| Knight, Maurice Ruhberg | Agri. | So. | Santa Ana, Cal. |
| Knips, Avis | H.E. | Jr. | Grants Pass |
| Knips, Clara | H.E. | So. | Grants Pass |
| Knodell, George Clifford | Com. | Fr. | Enterprise |
| Knotts, Ethel | Com. | So. | Corvallis |
| Knotts, Elizabeth | Com. | So. | Corvallis |
| Knowles, Everett Williams | Com. | Vo. | La Grande |
| Koeppen, Alfred Lyman | Phar. | Fr. | Pendleton |
| Koller, Frank Oswald | For. | Jr. | Astoria |
| Komm, Alice Pearl | Com. | Fr. | Yakima, Wash. |
| Kopplin, Russell Elmer | I.A. | Vo. | Forest Grove |
| Koschnitzky, Nella Burke | H.E. | Sp. | Corvallis |
| Koschnitzky, Walfred | Agri. | Vo. | Hillsboro |
| Koskewaara, Emil Ferdinand | M.E. | Vo. | Corvallis |
| Kroft, Joseph | Agri. | Vo. | Portland |
| Kramien, Lionel Clarence | Phar. | So. | Newberg |
| Krause, Chris Milton | Agri. | Sr. | Long Beach, Cal. |
| Krauter, Florence | H.E. | Fr. | Portland |
| Kreamer, Madeleine | H.E. | So. | Independence |
| Kremmel, Joseph Adam | Com. | Fr. | Eugene |
| Krichesky, Louis | E.E. | Fr. | Portland |
| Kroeger, Arthur Fred | M.E. | Fr. | Hillsboro |
| Krogh, Leona Viola | H.E. | Fr. | Tacoma, Wash. |
| Krohn, Le Roy Bernhard | I.A. | So. | Hood River |
| Krueger, Haris Luie | E.E. | Jr. | Corvallis |
| Krueger, Robert Frank | E.E. | So. | Portland |
| Kruse, Elmer Wagner | Agri. | Sp. | Sherwood |
| Kuehn, Henry | M.E. | Fr. | Portland |
| Kuehner, Richard Carl | Agri. | So. | Portland |
| Kung, Shih Tung | Agri. | Jr. | Kiangsi, China |
| Kunsman, Mary | Com. | Fr. | The Dalles |
| Kyle, Robert Floyd | Com. | Jr. | Central Point |
| Lacey, Mildred Irene | H.E. | Fr. | Creswell |
| Lachele, Clarence Edward | C.E. | So. | Salem |
| Lackey, Ruth | | Opt. | Ontario |
| Ladd, James Russell | E.E. | So. | Glendale |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|---------------------|
| La Petra, Vincent Howard | For. | Fr. | Glendora, Cal. |
| Lafky, Herman Ernest | Agri. | Jr. | Salem |
| Lagus, Ami | Agri. | Jr. | Astoria |
| Laird, Cecil Roy | E.E. | So. | Portland |
| Laird, Florence Mae | H.E. | Fr. | North Bend |
| Laird, George | C.E. | Fr. | North Bend |
| La Mar, Cleone | Com. | Fr. | Shedd |
| Lamar, Hazel Elonor | Com. | Fr. | Corvallis |
| Lamar, Walter Percival | Com. | Vo. | Portland |
| Lamb, John Elmer | Agri. | Vo. | Jefferson |
| Lambert, Hazel Fern | H.E. | Fr. | Scio |
| Lambert, Mary Alice | Com. | Jr. | Umatilla |
| Lance, Forrest Bryson | E.E. | Fr. | Corvallis |
| Lance, Harold Lester | Phar. | Fr. | Corvallis |
| Lance, Neely Samuel | Agri. | Sr. | Corvallis |
| Landes, Ted Eldred | Agri. | So. | Mossyrock, Wash. |
| Landwehr, Walter Richard | Min. | So. | Cottage Grove |
| Lane, Aeneas Dennis | E.E. | Fr. | Brownsville |
| Lane, Bernice | Com. | Jr. | Corvallis |
| Langley, Ethel Mary | Com. | Jr. | Portland |
| Lane, Bernice | Com. | Jr. | Corvallis |
| Langton, Pameler Alberta | Com. | Fr. | Newberg |
| Langton, Theo. James | M.E. | So. | Newberg |
| Lantz, Louin Grant | M.E. | Fr. | Coe |
| Lapham, Clarence Arthur | I.A. | So. | Toutle, Wash. |
| Lapitsky, Ivan | I.A. | Vo. | Gomel, Russia |
| Larkin, Harold George | For. | So. | Nalpee, Wash. |
| Larsen, Edward Louis | Com. | So. | Clatskanie |
| Larsen, Edwin | Com. | Fr. | Suver |
| Larsen, James Carl | E.E. | Jr. | Suver |
| Larsen, Lily Lorene | H.E. | So. | Laurel |
| Larson, Clarence Elmer | Agri. | So. | Long Beach, Cal. |
| Larson, Dewey Bernard | Min. | Fr. | Portland |
| Larson, Ernest Lionel | M.E. | Vo. | Turner |
| Larson, Lynn Harold | C.E. | Fr. | La Grande |
| Larson, Melvin Laverne | For. | So. | La Grande |
| Larson, Rae Louise | Com. | Sp. | Astoria |
| Larson, Raymond Gilbert | Agri. | Sr. | Fairfield, Iowa |
| Lasher, Frank Wesley | E.E. | Fr. | Puyallup, Wash. |
| Lasselle, Florence | H.E. | Fr. | Portland |
| Lassiter, Sam | I.A. | Vo. | Frost, Tex. |
| Lathrop, Mariee Vae | H.E. | Sp. | Corvallis |
| Lathrop, Willis | E.E. | Sr. | Portland |
| La Tourrette, Rena | H.E. | Sr. | Phoenix, Ariz. |
| Lauder, Milton Knox | M.E. | Vo. | Tacoma, Wash. |
| Law, Maude Eva | H.E. | Sp. | Corvallis |
| Lawrence, Cyrus Belah | Agri. | Vo. | Estacada |
| Lawson, Rudolph William | Com. | Vo. | Portland |
| Layman, John Harold | Com. | Sp. | Portland |
| Layton, Clarice John | Com. | Jr. | Rathdrum, Idaho |
| Layton, Harold Eugene | M.E. | Vo. | Portland |
| Lazarus, Fred Wesley | A.M. | Vo. | Corvallis |
| Leadbetter, Pittock | For. | Vo. | Portland |
| Leavitt, Edwin Joseph | For. | Fr. | San Gabriel, Cal. |
| Lechner, Erwin Albert | M.E. | Fr. | Cathlamet, Wash. |
| Ledford, John David | I.A. | Vo. | Hood River |
| Lee, Henry Clifford | Agri. | Vo. | Eugene |
| Lee, Loyd Atwood | Agri. | Jr. | Salem |
| Lee, Norman Russell | Agri. | Vo. | Echo |
| Leer, Trygue | M.E. | Vo. | Portland |
| Leevy, Geraldine Marguerite | H.E. | Sp. | Seattle, Wash. |
| Leevy, Pauline | H.E. | Fr. | Seattle, Wash. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|----------------------|
| Lehman, Olive Henrietta | H.E. | Fr. | Portland |
| Leland, Nelson Luther | Agri. | Fr. | Corvallis |
| Lemmon, Oral Miskell | Phar. | Sr. | Salem |
| Lenox, Gladys | H.E. | Sr. | Klamath Falls |
| Leo, Harold Raymond | Agri. | So. | Portland |
| Leonard, Charles Harrington | C.E. | Fr. | Winlock, Wash. |
| Leonard, Willard | I.A. | Vo. | Corvallis |
| Letellier, George Henry | Com. | Sr. | Mill City |
| Lewellyn, Albert | Agri. | Vo. | Junction City |
| Lewis, Elmer Lee | Agri. | Sp. | Walla Walla, Wash. |
| Lewis, Garfield Orr | Agri. | Jr. | Portland |
| Lewis, Jo Allen | Com. | Sp. | Portland |
| Lewis, Marquis | Agri. | Vo. | Hodgens, Okla. |
| Lewis, Mary Adele | H.E. | Jr. | Corvallis |
| Lewis, Paul | Agri. | Jr. | Rex |
| Lewis, Ronald Edward | Phar. | So. | McMinnville |
| Lewis, Wade Vernon | Min. | So. | Portland |
| Liddell, Lesley Winifred | Com. | Fr. | Oakland, Cal. |
| Liddell, Wingham | M.E. | Fr. | Berkeley, Cal. |
| Lienkaemper, Gertrude | H.E. | Jr. | Tillamook |
| Lieuallen, Cecil Leon | Agri. | Vo. | Heppner |
| Lilly, Clifford Norman | Agri. | Fr. | Dixonville |
| Lind, Laurie Paul | Phar. | So. | Portland |
| Lindberg, Christian Mikkell | C.E. | Fr. | Woodburn |
| Lindsay, Edith | H.E. | Sr. | Corvallis |
| Lines, George Lewis | C.E. | Fr. | Albany |
| Linguist, Aleyna Jennie | H.E. | So. | Cathlamet, Wash. |
| Linguist, Hilda Irene | Com. | Fr. | Cathlamet, Wash. |
| Lint, Ray | Com. | Fr. | Weiser, Idaho |
| Linton, Frank Cornelius | Min. | So. | Corvallis |
| Linton, George Edgar | C.E. | Vo. | Corvallis |
| Linville, Myrtle Harriet | H.E. | Sr. | Astoria |
| Little, Gordon | E.E. | Fr. | Stockton, Cal. |
| Little, Hubert William | Com. | Jr. | McMinnville |
| Littlejohns, Gertrude Louise | H.E. | Fr. | Corvallis |
| Livengood, Ruth Eleanor | Com. | So. | Albany |
| Lizberg, Alma Gustava | H.E. | Fr. | Oregon City |
| Llabres, Manuel | Agri. | Fr. | Gerana, P. I. |
| Lloyd, Allan | I.A. | Vo. | Klamath Falls |
| Lockie, Glenn Ellwood | Agri. | Vo. | Colville, Wash. |
| Lockwood, Franklin Mortimore | Com. | Sp. | Walla Walla, Wash. |
| Lodell, Carl Allen | Com. | Sr. | Portland |
| Logan, Carlton Kneeland | Com. | Jr. | Tualatin |
| Logan, Cecile Mary | Com. | Fr. | Ontario |
| Logan, Leighton | Agri. | Fr. | Cherry Valley, Mass. |
| Long, Allen Leslie | Agri. | Fr. | Blythe, Cal. |
| Long, Carl | Com. | Sr. | Yoncalla |
| Long, Ethel Day | Com. | Sr. | Caldwell, Idaho |
| Long, Hervey Croxton | Min. | So. | Portland |
| Loomis, Mamie Elizabeth | Com. | Jr. | Forest Grove |
| Looney, Frances Margaret | H.E. | Vo. | Jefferson |
| Loop, Charles Roy | Agri. | Sr. | McMinnville |
| Loosley, Merle John | Agri. | Sr. | Fort Klamath |
| Loughrey, Ettley | C.E. | So. | Payette, Idaho |
| Lounsberry, Frances Lavina | H.E. | Fr. | Portland |
| Love, Leston Lewis | Agri. | So. | Corvallis |
| Lovegren, Calvert Alberta | Agri. | Sp. | Portland |
| Lovegren, Edith Grace | Com. | Sp. | Portland |
| Lovegren, Wilfred David | For. | Fr. | Cherry Grove |
| Lovely, Christy Dowling | For. | Fr. | Portland |
| Lovett, Thomas | M.E. | So. | Oregon City |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------------|-------------------|-------------|---------------------|
| Low, Charles Ross | Min..... | Fr. | Ridgefield, Wash. |
| Lowe, Alexander Hewitt | C.E. | Fr. | Portland |
| Lowell, Ethel Mae | Phar..... | Fr. | The Dalles |
| Lowny, Edith Mae | H.E. | Sr. | Bellingham, Wash. |
| Lowny, Thearon Dean | Com. | Fr. | Leola, S. D. |
| Loy, Alfred Walter | Agri. | Jr. | Buena Vista |
| Loy, Gilbert Frank | Agri. | So. | Buena Vista |
| Lucas, William | Min..... | So. | Parkplace |
| Luch, Anna Louise | H.E. | So. | Vancouver, Wash. |
| Luch, William Fredrick | M.A. | Vo. | Mountindale |
| Luebke, Benjamin Harrison | Agri. | Fr. | Corvallis |
| Luebke, George | For. | So. | Toutle, Wash. |
| Luebke, William | Com. | Jr. | Corvallis |
| Lugnet, Verner | I.A. | Vo. | Astoria |
| Lukens, Glenn | Engr..... | Sr. | Cougill, Mo. |
| Lunt, Herbert Arthur | Agri. | So. | Corvallis |
| Luper, Delmar Roland | Agri. | Fr. | Tangent |
| Lyman, James De Witt | Agri. | Fr. | Portland |
| Lyman, Rollo Watson | C.E. | Fr. | La Grande |
| Lynch, Frank | Com. | Fr. | Aumsville |
| Lynch, John Jacob | Com. | Fr. | Aumsville |
| Lynch, William Robert | Com. | Vo. | Hoff |
| Lyon, Elmer Ellis | M.E. | Vo. | Canyon City |
| Lyne, Phyllis Ellen | H.E. | Jr. | Creston, B. C. |
| McBain, Donald Laughlin | Phar..... | So. | Portland |
| McBee, Doris Thella | Com. | Fr. | Prosser, Wash. |
| McBride, Clarendon, Jr. | Agri. | Fr. | Eddyville |
| McBride, Ronald Anthony | Phar..... | Fr. | Portland |
| McCain, Cecil Wayne | Com. | Fr. | Corvallis |
| McCain, Ernest Vivien | Com. | Jr. | Corvallis |
| McCain, Isla Mae | Com. | Jr. | Corvallis |
| McCain, Thomas Jefferson | Phar..... | So. | Corvallis |
| McCallester, Robert Carl | Com. | Fr. | Long Beach |
| McCamant, Davis | Agri. | So. | Portland |
| McCann, Frank Miles | Agri. | Fr. | Dallas |
| McCart, Marion | Agri. | Jr. | McMinnville |
| McCaslin, Clifford Harrod | M.E. | Fr. | San Francisco, Cal. |
| McCaw, Bessie Constance | H.E. | Jr. | Prescott, Wash. |
| McCaw, Ruth Ida | Op. .... | ..... | Prescott, Wash. |
| McClain, Arthur | Com. | Sr. | Salem |
| McClanathan, Robert Allen | C.E. | Sr. | Astoria |
| McClellan, Eva Maude | H.E. | Fr. | West Stayton |
| McComb, Allan | Agri. | Sr. | Klamath Falls |
| McComb, Mary Lorett | H.E. | Jr. | Klamath Falls |
| McConnell, William Harry | Com. | Fr. | Dufur |
| McCorkindale, John William | Agri. | Vo. | Ontario, Cal. |
| McCormick, Bertha | Com. | Jr. | Roseburg |
| McCormack, Raymond Elwood | Agri. | So. | Roseburg |
| McCormack, William U'Ren | Agri. | Fr. | Deschutes |
| McCormack, Agnes May | Op. .... | ..... | Klamath Falls |
| McCornack, Herbert Wells | C.E. | Fr. | Portland |
| McCay, Fred Burton | Agri. | Fr. | Seattle, Wash. |
| McCullough, James Andrew | I.A. | Vo. | John Day |
| McCune, Kenneth | Agri. | Fr. | Corvallis |
| McDaniel, Harry Marion | Agri. | Sp. | Amity |
| McDonald, Albert Lawrence | Agri. | Sp. | Burlington, Wash. |
| McDonald, George Krohn | C.E. | So. | La Grande |
| McDonald, May Evangeline | H.E. | Fr. | Dallas |
| McDonald, Ted | Com. | So. | Portland |
| McDonald, Weir Wells | Com. | So. | Medford |
| McDowell, Dolly Evelyn | Com. | So. | Redmond |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|---------------------|
| McEachern, Robert Bruce | M.E. | Fr. | Portland |
| McElwain, Paul Victor | Com. | Sp. | Pasadena, Cal. |
| McEnany, Robert Edward | Com. | Fr. | Vancouver, Wash. |
| McEwen, Annie Catherine | Op. | | Milton |
| McEwen, Robert Vernon | Agri. | Jr. | Milton |
| McFadden, Murins | Com. | Fr. | Corvallis |
| McFarland, James Helms | Min. | Jr. | Grants Pass |
| McGee, Leonard Lacy | M.E. | Fr. | Halsey |
| McGilchrist, George | Agri. | Sr. | Salem |
| McGilchrist, Hazel | Com. | Fr. | Salem |
| McGirr, Horace Donald | Com. | Sr. | Boise, Idaho |
| McHenry, Russell Raymond | I.A. | Vo. | Corvallis |
| McHugh, Sanford Whitfield | E.E. | Sp. | Corvallis |
| McIntosh, William Edward | M.E. | Sp. | Corvallis |
| McIntyre, John Henry | Agri. | Jr. | Ventura, Cal. |
| McKee, Alice | H.E. | Vo. | Portland |
| McKee, Lloyd | Agri. | Sp. | Woodburn |
| McKelvey, Stella | Com. | Vo. | Creston, B. C. |
| McKenna, Harold Joseph | E.E. | Fr. | Anaconda, Mont. |
| McKenna, Hugh Francis | Com. | Fr. | Portland |
| McKillop, Neta Pearl | Com. | So. | Corvallis |
| McKimens, Frank Gard | Agri. | Vo. | Corvallis |
| McKinney, Althea Lee | Com. | So. | Turner |
| McKinney, Curtis Charles | C.E. | So. | Portland |
| McKinney, Rollo Jas. | C.E. | Fr. | Independence |
| McKinney, Vida May | H.E. | So. | Eugene |
| McKinney, Walter Verne | Com. | Fr. | Hillsboro |
| McKinnis, Fern | Com. | So. | Summerville |
| McKinnis, Ona | Com. | Fr. | Summerville |
| McKnight, Mildred Mae | H.E. | So. | Corvallis |
| McLaughlin, Joseph Robert | M.E. | So. | Portland |
| McLaughlin, Lulu Carolyn | Com. | Sp. | Corvallis |
| McLean, Allen Clark | Agri. | So. | Pendleton |
| McLennan, Donald | M.E. | Vo. | Mt. Vernon |
| McLeod, Henrietta | Com. | So. | Coquille |
| McLernon, John Mark | Agri. | Vo. | Portland |
| McMaster, Robert George | Com. | Vo. | Corvallis |
| McMillon, William Elbert | Com. | Fr. | Lexington |
| McMonies, Claudine Olga | Com. | Fr. | Pendleton |
| McMurren, Leslie | Com. | Fr. | Ontario |
| McNamee, George Paul, Jr. | M.E. | So. | Beaverton |
| McNelly, Robert Emmett | Phar. | Fr. | Bend |
| McNeil, Donald John | M.E. | So. | Portland |
| McNulty, Luther | C.E. | Sp. | Silverton |
| McPherson, Walter Jay | Engr. | Sp. | Forest Grove |
| McVey, Albert Vernon | M.E. | Fr. | Corvallis |
| Maberly, Grace Madeline | H.E. | So. | Corvallis |
| Maberly, Sarah Alice | H.E. | Fr. | Corvallis |
| Maberly, Thomas Edward | Agri. | So. | Corvallis |
| MacCracken, Chester Caldwell | C.E. | Fr. | Ashland |
| MacDonald, Olive | H.E. | Sp. | Ocean Falls, B. C. |
| Mack, Earl Wright | Agri. | So. | Klamath Falls |
| Mackenzie, Arthur Bailey | Com. | Fr. | Portland |
| Maclean, Pauline | H.E. | So. | Portland |
| Macpherson, Donald Frederick | Agri. | So. | Pasadena, Cal. |
| Madden, Ella Louise | H.E. | Sp. | Vancouver, B. C. |
| Madison, Pearl Aneita | Com. | Fr. | Cambridge, Idaho |
| Madsen, Alvin Hjalmar | Agri. | Jr. | Silverton |
| Magee, Buell Lawrence | I.A. | Vo. | Lakeside |
| Magee, Mary | H.E. | Fr. | McMinnville |
| Magers, Carrie Edna | Com. | Fr. | Salem |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------------|-------------------|-------------|---------------------|
| Maginnis, Agnes Joaquina | Com. | So. | Corvallis |
| Maginnis, Frances | Com. | So. | Corvallis |
| Magness, Virginia Byrd | H.E. | Jr. | Amity |
| Magnuson, Roy William | Agri. | Fr. | Everett, Wash. |
| Mahan, Susie | Com. | Jr. | Baker |
| Mahon, James Lake | C.E. | So. | Hillsboro |
| Mahood, Florence | Com. | Fr. | Wier City, Kans. |
| Mainwaring, William Bernard | Com. | Sr. | Newberg |
| Malinen, Aino | Com. | Fr. | Deep River, Wash. |
| Mallette, Leonard | Agri. | Vo. | Oregon City |
| Malone, Earl Nicholas | Agri. | Sr. | Castle Rock, Wash. |
| Malmin, Martin Edward | Com. | So. | St. Helens |
| Manahan, Raymond Augustus | C.E. | Fr. | Enumclaw, Wash. |
| Manderville, Purl Le Roy | Com. | Vo. | Ephrata, Wash. |
| Mangis, William Earl | Com. | Vo. | Dallas |
| Manion, Harold Sharp | Agri. | Vo. | Corvallis |
| Manning, Allen Monroe | E.E. | Sr. | Vancouver, Wash. |
| Manning, George Everett | Com. | So. | Salem |
| Manning, James | E.E. | Fr. | McMinnville |
| Manning, John | Phar. | Jr. | McMinnville |
| Manning, Ralph Theodore | For. | Fr. | Roy, Wash. |
| Mardis, Loche | Com. | Sr. | McMinnville |
| Markart, William Herbert | Agri. | Sp. | La Mesa, Cal. |
| Markle, Lorain | Agri. | Sp. | St. Louis, Mo. |
| Marquez, Alejandro Padillo | C.E. | Fr. | Philippines |
| Marquis, Walter Alexander | M.E. | So. | Aledo, Ill. |
| Marr, David | Com. | So. | Dundee |
| Marr, Uel Barton | M.E. | Fr. | Dundee |
| Marsh, Harold Berton | Agri. | Fr. | Tumalo |
| Marsters, Vivian Bertha | H.E. | So. | Roseburg |
| Martens, Henry | C.E. | Fr. | Chinook, Mont. |
| Martens, Maime | Com. | Sr. | Chinook, Mont. |
| Martin, Doris Katherine | H.E. | Vo. | Milwaukie |
| Martin, Emily | H.E. | Sr. | Corvallis |
| Martin, Estella Lucile | H.E. | Fr. | Portland |
| Martin, Glen | Agri. | Jr. | McMinnville |
| Martin, Lester Morris | Agri. | Sp. | Portland |
| Martin, Lois Maeble | H.E. | Jr. | McMinnville |
| Marvin, Jennie Margret | H.E. | Fr. | Amity |
| Mason, Earl George | For. | Sr. | Salem |
| Mason, Milton Copeland | M.E. | Fr. | Jefferson |
| Mason, Oscar John | Com. | Fr. | Pt. Terrace |
| Mason, Thomas Floyd | Agri. | Fr. | Hood River |
| Masterson, John Patrick | Com. | So. | Sixes |
| Masterson, Ralph Royal | Agri. | Fr. | Juntura |
| Mataban, Atanasio Casingal | Agri. | Fr. | Philippines |
| Mather, Irving Allen | C.E. | Sr. | San Diego, Cal. |
| Mathes, Clarence Le Roy | Agri. | Fr. | Portland |
| Mathisen, William Milton | Agri. | So. | Montpelier, Idaho |
| Matten, Alta Elizabeth | H.E. | Jr. | Salem |
| Matten, George Cornelius | Agri. | Fr. | Salem |
| Matthes, William Ernest | M.E. | So. | Bellingham, Wash. |
| Matthews, Donald Navarre | For. | Sr. | Salem |
| Matthews, Verle | H.E. | So. | Portland |
| Mattley, Helen Gall | H.E. | So. | Oregon City |
| Matz, Harry | M.E. | Vo. | Portland |
| Maupin, Daniel Newton | Agri. | Vo. | Oakland |
| Maxwell, Grace | Com. | Jr. | Weiser, Idaho |
| Maxwell, William David | Agri. | Vo. | Baker |
| May, Wallace Leon | Agri. | Fr. | Grass Valley |
| Mayer, Stella | H.E. | Sp. | Corvallis |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------------|-------------------|-------------|---------------------|
| Meacham, Clifford | Agri. | Sr. | Weiser, Idaho |
| Mead, Harry Louis | M.E. | Vo. | Wilbur |
| Means, Milo | Agri. | So. | Philomath |
| Medley, James William | For. | Jr. | Oakland |
| Meeker, Allen Raleigh | Agri. | Fr. | Sparks, Nev. |
| Meier, Arnold Herbert | For. | Fr. | Grants Pass |
| Melis, Percy Edgar | For. | Fr. | Mist |
| Melvy, Kathleen | Com. | Jr. | Corvallis |
| Meloy, Lula | Com. | Jr. | Corvallis |
| Mende, Herman William | C.E. | So. | Hood River |
| Mendenhall, Frank Barton | For. | Fr. | Sheridan |
| Mendenhall, Marie | H.E. | Sr. | Everett, Wash. |
| Mendoza, Jose Miguel | Agri. | Jr. | Philippines |
| Mentzer, Alta Belle | H.E. | Jr. | Corvallis |
| Mercer, Ira | Com. | Fr. | Salem |
| Mercer, Robert Hugh | Min. | Fr. | Cooston |
| Merklin, Chester Philip | Com. | Fr. | Walla Walla, Wash. |
| Merriott, William Andrew | E.E. | So. | Milwaukie |
| Meserve, Helen Shirlie | H.E. | Fr. | Portland |
| Messer, Harold Paul | Agri. | Fr. | Aberdeen, Wash. |
| Messer, Lyndell Ruth | Com. | Fr. | Aberdeen, Wash. |
| Metcalf, Thomas Edward | Com. | Vo. | Albany |
| Metge, Millie Augusta | H.E. | Fr. | Albany |
| Metzker, John Kenneth | I.A. | Vo. | Lakeview |
| Metzler, Ivan Ray | Com. | Sr. | North Bend |
| Meyer, Sylvester Ernest | I.A. | Vo. | Snohomish, Wash. |
| Meyer, Arnold George | M.E. | So. | Snohomish, Wash. |
| Meyerfoeffler, Virginia | Com. | So. | Portland |
| Meyers, Dorothy Mary | H.E. | Fr. | La Grande |
| Meyers, Robert Milton | Com. | Fr. | Gladstone |
| Michel, Mabel | H.E. | Fr. | Gresham |
| Michel, Marguerite Belle | Com. | So. | Gresham |
| Michelbrook, Herbert Stephen | Agri. | Fr. | Walla Walla, Wash. |
| Mickelwait, Dean Woods | Agri. | Fr. | Twin Falls, Idaho |
| Middlekauff, Ruth Helen | H.E. | Sr. | Corvallis |
| Mihnos, Edna Euphania | Com. | Fr. | Portland |
| Miles, Anna Afton | H.E. | So. | Salem |
| Miles, Leonard | M.E. | Fr. | Mapleton |
| Miller, Cecil Harold | Agri. | Jr. | Peona, Ariz. |
| Miller, Clay Carl | Agri. | Fr. | Canby |
| Miller, Curtis | Com. | Jr. | Union |
| Miller, Gladys Grace | H.E. | So. | Portland |
| Miller, Harry Castleman | Phar. | Fr. | Independence |
| Miller, Herman Newton | E.E. | Fr. | Scappoose |
| Miller, Homer De Witt | Agri. | Fr. | Corvallis |
| Miller, Horace Norman | E.E. | Fr. | Scappoose |
| Miller, Irwin Riner | Com. | Fr. | Portland |
| Miller, Jerome Everett | M.E. | Fr. | Portland |
| Miller, John Calvin | Agri. | Vo. | Brownsville |
| Miller, Levi Abner | Agri. | Vo. | Hubbard |
| Miller, Lowell Russell | M.E. | Fr. | Portland |
| Miller, Lloyd | M.E. | Sr. | Portland |
| Miller, Marian Louise | H.E. | Fr. | Salem |
| Miller, Marjorie Low | H.E. | Fr. | Macleay |
| Miller, Milton Marion | Agri. | So. | Canby |
| Miller, Murray Rayjond | E.E. | Fr. | Park Ridge, Ill. |
| Miller, Otto Peter | Com. | Vo. | Woodburn |
| Miller, Pierre Alphonse | Agri. | Vo. | Portland |
| Miller, Ralph Waldo | M.E. | Fr. | Corvallis |
| Miller, Trula Martha | H.E. | So. | Halsey |
| Miller, Wilma Delphia | H.E. | Fr. | Macleay |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------------|-------------------|-------------|----------------------------|
| Mills, Camilla | H.E. | Jr. | Forest Grove |
| Mills, James David | I.A. | Vo. | Monroe |
| Mills, Olivette Bailey | Com. | Fr. | Portland |
| Mills, Ruth Loraine | Phar. | Fr. | Monroe |
| Minkler, Lee Darrell | Com. | Fr. | Medford |
| Minsinger, David William | M.E. | Sp. | Metzger |
| Misner, Barney Grandison | Agri. | Vo. | Ellensburg, Wash. |
| Misson, William Hawk | E.E. | So. | Portland |
| Misz, Donald Francis | E.E. | Fr. | Portland |
| Mitchell, George Adamson | Agri. | So. | Upland, Cal. |
| Mitchell, Harry Earl | I.A. | Vo. | Sandy |
| Mitchell, John Levey | I.A. | Vo. | Scio |
| Mitchell, Lloyd Paul | Agri. | Jr. | Boise, Idaho |
| Mitchell, William Henry | C.E. | Sp. | Mabank, Tex. |
| Mize, Katie Olive | H.E. | Jr. | Salem |
| Moad, Logen | I.A. | Vo. | Newberg |
| Moberg, James Dalgety | E.E. | Sr. | Astoria |
| Moe, Frances | H.E. | Fr. | Hood River |
| Moe, Mark | Com. | Fr. | Hood River |
| Moffat, John Paul | Com. | Fr. | Dubuque, Iowa |
| Moffet, Edna Vancil | H.E. | Fr. | Corvallis |
| Moffet, Oren | I.A. | Vo. | Corvallis |
| Moffett, Lloyd Tevis | Agri. | Vo. | St. Louis, Mo. |
| Moffet, Warren | Agri. | Jr. | Corvallis |
| Mogan, George Lascul | Agri. | Vo. | Venetia Superior, Roumania |
| Mohney, William | Com. | So. | Salem |
| Monosmith, Maurice | E.E. | Fr. | Albany |
| Monsalve, Alejandro | Agri. | Sr. | Colombia, S. A. |
| Montgomery Clarence Vaughan | Com. | Sp. | Klamath Falls |
| Montgomery, Dorothy | H.E. | Sp. | McMinnville |
| Montgomery, Lelia Mabel | H.E. | Fr. | Twodot, Mont. |
| Montgomery, Loyd Byron | Agri. | Fr. | Pendleton |
| Moody, Mary Alice | H.E. | Fr. | Los Angeles, Cal. |
| Moomaw, Harold Amos | M.E. | Fr. | Hubbard |
| Moomaw, Jake Benjamin | Agri. | Fr. | Arago |
| Moon, Carlos Edgar | Agri. | Fr. | Boise, Idaho |
| Moon, Eugene | Phar. | So. | La Grande |
| Moon, Harry Walter | Phar. | Fr. | La Grande |
| Mooney, Jeannette Alfretta | H.E. | Fr. | Mukilteo, Wash. |
| Mooney, Thomas Francis | Agri. | Vo. | Clackamas |
| Moore, Collis Powell | Com. | Fr. | Moro |
| Moore, Eugene Hiram | Agri. | Vo. | Rogue River |
| Moore, Genevieve | H.E. | Sr. | Corvallis |
| Moore, Helen | Com. | So. | Salem |
| Moore, Maple Dell | H.E. | So. | Wilbur |
| Moore, Melville | E.E. | So. | Condon |
| Moore, Myrton Miles | C.E. | Fr. | Portland |
| Moore, Neva Lewis | Com. | Jr. | Corvallis |
| Moore, Ralston | M.E. | So. | Corvallis |
| Moore, William Robert | I.A. | Vo. | Yakima, Wash. |
| Moran, James | C.E. | Sp. | Portland |
| Morcom, Etta | H.E. | Sr. | Corvallis |
| Morcom, Margaret | H.E. | Sr. | Corvallis |
| Moreland, Heber | Agri. | So. | Corvallis |
| Moreland, Helen Margaret | H.E. | Jr. | Portland |
| Moreland, Ruth Aurelia | H.E. | Fr. | Portland |
| Morgan, Beulah Margaret | Com. | Fr. | Glendale |
| Morgan, Effie Xanthus | Agri. | Fr. | Corvallis |
| Morgan, Gilbert Davis | For. | Fr. | Milwaukie |
| Morgan, Ralph Lester | Agri. | Sr. | Corvallis |
| Morgan, Tweedy Anthony | For. | Fr. | Corvallis |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|--------------------------------|-------------------|-------------|---------------------|
| Morgan, Verona | Com. | So. | Everett, Wash. |
| Morier, Henry Eugene | Agri. | Sp. | Butte, Mont. |
| Morley, Frances Marion | H.E. | Sr. | Silverton |
| Morrill, Alan Graham | C.E. | So. | Vancouver, B. C. |
| Morris, Alfred Ivon | I.A. | Vo. | Oregon City |
| Morris, Clyde Martin | Agri. | Sp. | Newberg |
| Morris, Elizabeth | H.E. | Sp. | Corvallis |
| Morris, John Jay | Agri. | Vo. | Salem |
| Morris, Ray | C.E. | Sr. | Oregon City |
| Morrison, Ernest | E.E. | Sr. | Corvallis |
| Morrison, Margarette McCalmont | H.E. | So. | Arlington |
| Morse, Donald | Com. | Jr. | Seattle, Wash. |
| Morse, Leander Chas. | M.E. | So. | Berkeley, Cal. |
| Moser, Adelia Dorothy | H.E. | Fr. | Portland |
| Moser, Frank Fred | Agri. | So. | Gravelford |
| Moses, Arthur | Com. | Fr. | Eugene |
| Moss, Lloyd | Agri. | Jr. | Hood River |
| Moulton, Edna Anna | Agri. | Jr. | Portland |
| Mueller, Helen Margaret | Com. | Fr. | Vale |
| Mulkey, Lawrence Ivan | C.E. | Fr. | Stayton |
| Mulkey, Meral | H.E. | Fr. | Stayton |
| Munger, Bert | Agri. | Fr. | Santa Paula, Cal. |
| Munjar, Grey Utley | I.A. | Vo. | Dayville |
| Munson, Fred Orel | Com. | Sp. | Portland |
| Murhard, Erroll Alexander | C.E. | Sr. | Portland |
| Murray, Albert Samuel | E.E. | Jr. | Corvallis |
| Murray, Archie | Min. | Fr. | McMinnville |
| Murray, Byron Albert | Phar. | Fr. | Falls City |
| Murray, Gladys Lockie | H.E. | So. | Corvallis |
| Murray, Nettie Lorene | Op. | | Falls City |
| Murray, Willette | Agri. | Jr. | Grants Pass |
| Murton, Jack Hatfield | E.E. | Fr. | Portland |
| Mushrush, Floyd Milton | Min. | Jr. | Pasadena, Cal. |
| Myers, Allan | Agri. | Vo. | Portland |
| Myers, George Edward | M.E. | So. | Corvallis |
| Myers, Harry | Agri. | Fr. | Eugene |
| Myers, Robert Fairfax | Com. | Fr. | Oregon City |
| Myers, Ruth Eleanor | H.E. | Sp. | Corvallis |
| Myers, Ruth Morton | H.E. | Sp. | Corvallis |
| Naderman, George Vincent | M.E. | Sr. | Turner |
| Nagel, Julia Viola | Com. | Fr. | Forest Grove |
| Napper, Edward Henry | Agri. | Vo. | Marshfield |
| Napper, George Richard | Agri. | Vo. | Marshfield |
| Neal, Gladys Olive | H.E. | Sp. | Gresham |
| Neal, Jesse Alvro | M.E. | Vo. | Marion |
| Neeb, Bryan | C.E. | Fr. | Ontario |
| Neely, William Jennings | C.E. | Fr. | Oregon City |
| Neer, Thomas Earl | Agri. | Vo. | Turner |
| Neil, George | M.E. | Fr. | Oak Harbor, Wash. |
| Nelson, Alder Edward | Com. | Fr. | Portland |
| Nelson, Bernice Irene | H.E. | So. | Corvallis |
| Nelson, Eiven | E.E. | Fr. | Bellingham, Wash. |
| Nelson, George Lester | C.E. | Fr. | Glendale |
| Nelson, Herbert | Agri. | Jr. | Mt. Vernon, Wash. |
| Nelson, Lawrence Henry | M.E. | Vo. | Wilsonville |
| Nelson, Lewis Halvor | Agri. | Vo. | Sargent, Neb. |
| Nelson, Ray Emonds | E.E. | Fr. | Eugene |
| Ness, Lewis John | Com. | So. | Portland |
| Ness, Ruth Laura | Phar. | So. | Portland |
| Nettleton, Harry Ira | For. | Jr. | Haighler, Neb. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|----------------------|
| Neuman, Joseph John | Agri. | Vo. | Junction City |
| Newcomer, Lucian Edwin | Agri. | Jr. | Colton, Cal. |
| Newhouse, Carla Marghretta | H.E. | So. | The Dalles |
| Newhouse, Sewell Omer | C.E. | Jr. | Springbrook |
| Newman, Isaac | M.E. | Fr. | Landax |
| Newman, Paul Clinton | Agri. | So. | Corvallis |
| Newmyer, Philip | Phar. | Sp. | Chemawa |
| Newmyer, William Ray | Agri. | Fr. | Chemawa |
| Newton, Elizabeth Coats | H.E. | Fr. | Colliersville, N. Y. |
| Nicholl, Albert Thomas | Agri. | Sp. | Portland |
| Nichols, Carl Theodore | Agri. | Vo. | Halsey |
| Nichols, Eugene Franklin | Agri. | Sp. | Halsey |
| Nichols, John Ralph | Agri. | So. | Palo Alto, Cal. |
| Nichols, Madison | C.E. | So. | Salem |
| Nichols, Rudolph | Agri. | Jr. | Wenatchee, Wash. |
| Nicholson, Frances Bell | H.E. | Fr. | Medford |
| Nicholson, Ruth Elizabeth | Com. | So. | Hood River |
| Nicholson, William Ronald | Phar. | Fr. | Marshfield |
| Nick, Jerome Thomas | Agri. | Fr. | Los Angeles, Cal. |
| Niles, Florence | H.E. | So. | Eugene |
| Niles, Wallace Ellsworth | Agri. | Jr. | Grants Pass |
| Nisley, Barbara Hoffman | Com. | Jr. | Portland |
| Noonan, Norman Alred | Agri. | So. | Ontario, Cal. |
| Noonan, Roderic Edward | Com. | Fr. | Astoria |
| Noonan Val Edwin | Agri. | So. | Ontario, Cal. |
| Nordling, Gill | Com. | Fr. | Colton |
| Nordling, Philemon Oscar | C.E. | Fr. | Colton |
| Norene, Jennie Theresa | Com. | Fr. | Bend |
| Norene, Signa Morce | H.E. | Vo. | Bend |
| Normansen, George | Agri. | So. | Sherwood |
| Norris, Fred Charles | Com. | Fr. | Portland |
| Norris, Robert Kearney | Agri. | Fr. | Medford |
| Norton, Edmund Carlyle | For. | Sp. | Corvallis |
| Novinger, Fred | Agri. | Vo. | Long Beach, Cal. |
| Nunn, Harry | Op. | | Corvallis |
| Nusbaum, Betty Evelyn | H.E. | Fr. | Portland |
| Nutting, Bernard Lee | For. | Fr. | Brookings |
| Nye, Stephen Gundlach | Com. | So. | Medford |
| Nygren, Clarence Albert | M.E. | Fr. | North Bend |
| Nygren, Oscar | Agri. | So. | Albany |
| Ober, Blythe Henry | C.E. | Fr. | Portland |
| O'Brien, Beatrice Leona | Com. | Fr. | Ruch |
| O'Brien, Martha Ellen | Com. | Sp. | Butte Falls |
| O'Connell, John William | Com. | Fr. | La Grande |
| Oderkirk, Button | Agri. | Sp. | New Salem, N. D. |
| Offield, Lester Clifford | Com. | Fr. | Merrill |
| Ogden, Helen | H.E. | Fr. | Portland |
| Oleson, Mildred Elizabeth | Op. | | Seattle, Wash. |
| Oliver, Edward Wanner | Com. | Jr. | Portland |
| Olmstead, Eslie Vida | H.E. | Fr. | Enterprise |
| Olmstead, Mary | Com. | So. | Forest Grove |
| Olsen, Charles Albert | Agri. | Vo. | Portland |
| Olsen, Herbert Julius | Agri. | Fr. | Goleta, Cal. |
| Olsen, Roy Arthur | I.A. | Vo. | Portland |
| Olsen, Truman | Com. | Vo. | Corvallis |
| Olson, Harold Raymond | E.E. | Fr. | Woodburn |
| Olson, Helen Josephine | Com. | Fr. | Portland |
| O'son, Philip James | M.A. | Vo. | Corvallis |
| Olson, Sigfred | E.E. | Jr. | Albany |
| Olson, Walter Daniel | E.E. | So. | Portland |
| Olson, William | Agri. | Fr. | Seaside |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------------|-------------------|-------------|----------------------|
| Oltman, Ansley Louis | Agri. | Fr. | Long Beach, Cal. |
| Onkka, Elizabeth Sanna | Com. | Fr. | Astoria |
| Onsdorff, Thomas | Agri. | So. | Battle Ground, Wash. |
| Opedal, Martha | H.E. | Sr. | Silverton |
| Orkney, Henry | E.E. | Fr. | Raymond, Wash. |
| O'Rourke, Edgar McCollock | Com. | Jr. | Portland |
| O'Rourke, Roscoe Newton | Agri. | Fr. | Portland |
| Orr, George David | Agri. | Jr. | Corvallis |
| Orr, John Judson | I.A. | Jr. | Corvallis |
| Orr, Marshall Simpson | Com. | So. | Reno, Nev. |
| Orser, Ernest Clark | Agri. | Fr. | Mt. Pleasant, Mich. |
| Osborn, Fred Percy | Agri. | Fr. | Portland |
| Osborne, Gifford | For. | So. | Aurora |
| Ostien, Tom | Min. | Jr. | Monmouth |
| Ostrander, Dorothy | Com. | Fr. | Portland |
| Ostrum, Richard Jacob | M.E. | So. | Portland |
| Ottke, Harry | Com. | Vo. | Kaneta |
| Overstreet, Martha Ellen | H.E. | So. | Nyssa |
| Overstreet, Robert Scott | Agri. | Sp. | Nyssa |
| Owen, Ava Starr | H.E. | Fr. | Portland |
| Owens, Clara Barnett | H.E. | Vo. | Walla Walla, Wash. |
| Owen, Frank Arthur | M.E. | So. | Portland |
| Owens, Jacob Henry | Agri. | Jr. | Raymond, Wash. |
| Owens, Thomas Siler | For. | So. | Raymond, Wash. |
| Owens, William Osborne | For. | So. | Raymond, Wash. |
| Owsley, Alfred Thomas | Com. | So. | La Grande |
| Pace, Franklin Dewey | E.E. | Fr. | Corvallis |
| Paddack, Earl William | C.E. | Fr. | Oregon City |
| Paddock, Harvey Levi | M.E. | Fr. | Eugene |
| Page, Chester Leroy | E.E. | So. | Whitehall, Mont. |
| Page, Harold | Agri. | So. | Whitehall, Mont. |
| Paget, Beatrice Thurston | H.E. | Sr. | Eugene |
| Paget, Lowell Caples | Com. | Vo. | Portland |
| Paine, John | Agri. | So. | Caldwell, Idaho |
| Palfrey, Ernest Ralph | Agri. | Jr. | Molalla |
| Palmateer, Oral Edwin | I.A. | Vo. | Silverton |
| Palmer, Claude Funston | Com. | So. | Corvallis |
| Palmer, Dean Fullerton | Agri. | Fr. | Upland, Cal. |
| Palmer, Donovan Pierce | M.E. | Fr. | North Bend |
| Palmer, Lowell Elbert | Com. | Jr. | Jordan Valley |
| Pangle, Florence Winifred | H.E. | Vo. | Portland |
| Pape, Johnson William | Agri. | Vo. | David, Wyo. |
| Pape, Paul Coyte | Agri. | Vo. | Daniel, Wyo. |
| Pape, William Rodney | Agri. | Vo. | Corvallis |
| Parcel, James Albert | Phar. | Sr. | Berkeley, Cal. |
| Pardee, Josiah | C.E. | Jr. | Grants Pass |
| Pardee, Marvin Irving | Com. | So. | Corvallis |
| Park, Gerald | M.E. | Fr. | Oregon City |
| Parker, Alan Berthold | Agri. | Sr. | Pasadena, Cal. |
| Parker, Charles Henry | M.E. | Fr. | Sutherlin |
| Parker, Clyde Gilman | Com. | Vo. | Portland |
| Parker, Floyd Oliver | Com. | Vo. | Portland |
| Parker, Helen | H.E. | Fr. | Portland |
| Parker, James Roland | Agri. | So. | Medford |
| Parker, Leonard Clifton | E.E. | Fr. | Portland |
| Parker, Rowland | Com. | Vo. | Albany |
| Parker, Stella Frances | H.E. | Fr. | Myrtle Point |
| Parker, Theodore Clifford | I.A. | Vo. | Natona, Cal. |
| Parkinson, Robert Lee | E.E. | Fr. | Lincoln, Neb. |
| Paroni, Anthony | Agri. | Jr. | Berkeley, Cal. |
| Parsell, Charles Christian | Agri. | Sp. | Ashley, Ind. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|---------------------------|-------------------|-------------|---------------------|
| Parsons, Cyril Malcolm | C.E. | So. | Bonanza |
| Parsons, Helen Frances | Com. | Sp. | Roswell, Idaho |
| Parsons, Walton Winfield | Phar. | Jr. | Sherwood |
| Partello, J. K. (Mrs.) | H.E. | Sp. | Corvallis |
| Pashek, Frances | M.E. | Fr. | The Dalles |
| Patchin, Alonzo William | Agri. | Jr. | Salem |
| Patchett, Walter Cecil | Agri. | So. | Annapolis, Cal. |
| Patchin, Julia Harriett | H.E. | So. | Salem |
| Paterson, Dan MacCole | Com. | Jr. | Portland |
| Patrick Donald | Com. | Fr. | Corvallis |
| Patterson, Vincent Millar | Agri. | So. | Eugene |
| Patton, Dwight | Agri. | So. | Corwin, Tex. |
| Patton, Mrs. Louise | Agri. | Vo. | Corvallis |
| Patton, Lyman William | Agri. | Fr. | Corvallis |
| Patty, Florence Valeria | H.E. | Sr. | Amity |
| Patty, Frank | Agri. | Fr. | La Grande |
| Paulson, Amanda Sylena | Com. | So. | Corvallis |
| Paulson, Anna Josephine | H.E. | Jr. | Corvallis |
| Paulson, Edla | H.E. | Fr. | Portland |
| Paulson, Oscar Ingoal | Agri. | Sr. | Corvallis |
| Paxton, Charles Alford | Agri. | Vo. | Elgin |
| Payne, Elias Seymour | Agri. | Sp. | Snohomish, Wash. |
| Payne, George Franklin | Agri. | So. | Corvallis |
| Payne, Lois Marguerite | C.E. | Fr. | Northfield, Minn. |
| Payne, William Fulwar | Agri. | Jr. | Corvallis |
| Payton, Wesley Eugene | Agri. | So. | Baker |
| Pearson, Edna | H.E. | Jr. | Portland |
| Pearce, Harold Edgar | C.E. | So. | Seattle, Wash. |
| Pease, Ferris Denby | M.E. | Fr. | Jefferson |
| Pease, Isabelle Gertrude | H.E. | Fr. | Portland |
| Pease, Josephine Bounn | H.E. | Fr. | Portland |
| Peaslee, Ruth | H.E. | Sr. | Oswego |
| Peattie, Mary Christina | H.E. | Fr. | Portland |
| Peavy, Bradley Adelbert | For. | Fr. | Corvallis |
| Peavy, George Darwin | For. | So. | Corvallis |
| Peffer, Rex Ivan | Agri. | Fr. | Dayton |
| Peil, Fay Elizabeth | H.E. | Fr. | Corvallis |
| Pemberton, Robert Barkley | M.E. | So. | Whittier, Cal. |
| Pengra, Iva Jeanette | H.E. | Sp. | Springfield |
| Pengra, Mahlon Norton | M.E. | Fr. | Eugene |
| Pennoyer, Paul James | I.A. | Vo. | Corvallis |
| Pentzer, Wilbur Tibbils | Agri. | Fr. | Pasadena, Cal. |
| Perkins, Arthur Barkette | Agri. | Fr. | Santa Ana, Cal. |
| Pernot, Aimee Lucie | H.E. | Fr. | Portland |
| Pernot, Dorothy | H.E. | Jr. | Corvallis |
| Perry, Frances Elizabeth | Com. | Fr. | Medford |
| Perry, Jesse Lee | C.E. | Jr. | Portland |
| Perry, Kenneth Sterling | C.E. | Fr. | Klamath Falls |
| Perry, William McGuire | Agri. | So. | Houlton |
| Persons, Philip | Agri. | Fr. | Berkeley, Cal. |
| Persons, Ruth Gilbert | Phar. | Jr. | Berkeley, Cal. |
| Petersen, Alice Ane | Com. | So. | Chehalis, Wash. |
| Peterson, Alton Leroy | Com. | Fr. | Culbertson, Wash. |
| Peterson, Antone | Agri. | Vo. | Grays River, Wash. |
| Peterson, Ella | H.E. | So. | Junction City |
| Peterson, David Conrad | E.E. | Fr. | Gresham |
| Peterson, Emil Ralph | Agri. | Jr. | North Bend |
| Peterson, Henry Ejner | Agri. | Fr. | Junction City |
| Peterson, Ira Herman | Agri. | So. | Mist |
| Peterson, John | C.E. | Fr. | Knappa |
| Peterson, Louis Leroy | I.A. | Vo. | Elmira |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|---------------------|
| Peterson, Nettie Lucille | H.E. | Jr. | Ontario |
| Peterson, Wallace Elmer | M.E. | Fr. | Anaconda, Mont. |
| Petite, Palmer Henry | M.E. | Fr. | Heisson, Wash. |
| Pettersen, Aage Emil | Agri. | Sp. | Denmark |
| Pettinger, Lois Hudson | H.E. | Fr. | Oswego |
| Pettingill, George Freeman | C.E. | So. | Newberg |
| Petty, Ercel Earl | Com. | Vo. | Corvallis |
| Pfeiffer, Charles Frank | M.E. | So. | Albany |
| Phetteplace, Gertrude | Op. | | The Dalles |
| Philbrick, Lewis | Agri. | Fr. | Camas, Wash. |
| Phillips, Gladys Alta | Com. | Sp. | Corvallis |
| Phillips, Gladys | H.E. | Fr. | Portland |
| Phillips, Harrison Nye | Com. | Vo. | Gooch |
| Phillips, James Robert | Agri. | So. | Portland |
| Phillips, Kenneth | Phar. | Fr. | Seattle, Wash. |
| Phillips, Wendell | I.A. | Vo. | Alhambra, Cal. |
| Phillips, Kenneth | Engr. | Jr. | Albany |
| Philpott, William Henry | E.E. | Fr. | Prosper |
| Phipps, Troy Aubrey | C.E. | So. | Ashland |
| Pickard, Archie Niel | Agri. | Sp. | Corvallis |
| Pickering, Ellwood Ellis | Agri. | Fr. | Fullerton, Cal. |
| Pickett, Bruce Franklyn | Com. | Fr. | Gold Hill |
| Pierce, George McGuire | Agri. | Sp. | Portland |
| Pierce, Lucille | H.E. | Jr. | La Grande |
| Pietzker, Henry Fred | E.E. | Jr. | Portland |
| Pine, William Douglas | Agri. | Sr. | Berkeley, Cal. |
| Pinkerton, Harry Staltze | Com. | So. | Corvallis |
| Pinkston, Clarence Elmer | C.E. | So. | San Diego, Cal. |
| Pitney, Francis Alvah | Phar. | Fr. | Junction City |
| Playle, Audmer Roy | Com. | Fr. | La Grande |
| Plog, Edna Louise | H.E. | Fr. | Hood River |
| Plog, Olga Agnes | Phar. | Sp. | Hood River |
| Poley, Evangeline Collins | H.E. | Sr. | Corvallis |
| Poling, Harold Wayne | C.E. | Jr. | Corvallis |
| Poling, Helen Virginia | H.E. | So. | Corvallis |
| Pollard, Albert Sidney | Agri. | Vo. | Council Grove, Kan. |
| Pollock, William | M.E. | Fr. | Tidewater |
| Poole, Kenneth Clifford | Agri. | Fr. | Portland |
| Poole, Leslie Erving | M.E. | Jr. | Hillsboro |
| Poole, Orell Allard | E.E. | Fr. | Wallowa |
| Poole, Roy Mabee | Min. | Sr. | Hillsboro |
| Popham, Benjamin Ehlinger | M.E. | Fr. | Portland |
| Porter, Glenn Wayne | Agri. | Sp. | Aumsville |
| Porter, James Larson | Phar. | Fr. | Ashland |
| Porter, Mildred | Com. | Jr. | Corvallis |
| Porter, Nile | Com. | Sp. | McMinnville |
| Porter, Stephen Daniel | Agri. | Vo. | Sheridan |
| Posadas, Casimero Carbonell | Com. | Fr. | Philippines |
| Posadas, Felino Carbonell | Com. | Fr. | Philippines |
| Poteet, William Jennings | Min. | Fr. | Portland |
| Potter, Cornelia Jeanette | H.E. | Sp. | Haines |
| Potter, Douglas Harold | Agri. | Sp. | Baker |
| Powell, Clement James | M.E. | Fr. | Portland |
| Powell, De Witt Elvin | Min. | Jr. | Orland, Cal. |
| Powell, Gail Willis | I.A. | Vo. | Scio |
| Powell, George Arthur | Com. | Jr. | Portland |
| Powell, Guy Evans | Com. | Fr. | Portland |
| Powell, Norval | Agri. | So. | Cottage Grove |
| Powell, Raymond Arthur | Com. | Vo. | Portland |
| Powell, Virgil Alfred | C.E. | Fr. | Cottage Grove |
| Powell, Wilmer Dwight | Agri. | Sr. | Monmouth |
| Powers, Sidney Bryan | Com. | So. | Salem |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-------------------------------------|-------------------|-------------|---------------------|
| Powers, Verne | H.E. | Sr. | Corvallis |
| Powne, Norman | E.E. | So. | Banks |
| Prael, Albert Herman | M.E. | Fr. | Astoria |
| Prather, Harry Albert | Phar. | Jr. | Klamath Falls |
| Prather, Marie Alma | Com. | Sr. | Corvallis |
| Prather, Mildred Esther | H.E. | Jr. | Corvallis |
| Prescott, Elva Marguerite | Com. | Sp. | Nampa, Idaho |
| Presley, Albert | Agri. | So. | Salem |
| Presley, Grace Louise | H.E. | So. | Salem |
| Presnall, Clifford Charles | Agri. | So. | Lebanon |
| Price, Curtis Edmiston | Agri. | Sp. | Springfield |
| Price, Elise Groves | H.E. | Sr. | Sifton, Wash. |
| Price, Frederick Earl | Agri. | Jr. | Woodlake, Cal. |
| Price, Gladys | H.E. | Jr. | Oakland |
| Price, Raymond Eugene | Com. | Jr. | Corvallis |
| Price, Watts Willard | I.A. | So. | Scappoose |
| Price, William Raymond | C.E. | Fr. | Medford |
| Prindle, George James | Agri. | Fr. | Hermiston |
| Prindle, Vera Elmira | Com. | Fr. | Prairie City |
| Pringle, John Robert | I.A. | Vo. | Mist |
| Pritchard, Ourray Clifton | I.A. | Vo. | Portland |
| Pritchett, Jesse Hobson | Engr. | Vo. | Carlton |
| Proctor, Ina Mae | Com. | Fr. | Salem |
| Proebstel, Dorothy Lillian | H.E. | Fr. | Adams |
| Prose, Harold | For. | Fr. | Ashland |
| Prouty, Charley Clarence | Agri. | Fr. | Weiser, Idaho |
| Pryse, Morgan | For. | Jr. | Prairie City |
| Pubols, Freida Martha | Com. | So. | Hillsboro |
| Pubols, John | Agri. | Vo. | Hillsboro |
| Pugh, John | Agri. | Sr. | Corvallis |
| Pugh, Kenneth Leslie | Agri. | Vo. | Raymond, Wash. |
| Putnam, Nana Wait | Com. | Fr. | Salem |
| Purvine, Glenn Ferris | Agri. | Vo. | Salem |
| Pyfer, Frederick Fourth | Agri. | Vo. | Tacoma, Wash. |
| Quackenbush, Eleanor Beatrice | H.E. | Fr. | Portland |
| Quackenbush, Roy | M.E. | Jr. | Portland |
| Quarton, Thomas Irving | C.E. | Fr. | Anaheim, Cal. |
| Quimby, Ethel Annette | H.E. | Jr. | Halsey |
| Quiner, John Hill | Min. | Fr. | Eugene |
| Rackleff, David Edward | Phar. | So. | Florence |
| Rahn, Fred William | Com. | Jr. | Corvallis |
| Ralston, William John | Phar. | Fr. | Corvallis |
| Ramsey, William Elmer | M.E. | So. | Portland |
| Ranch, Edward Nelson | Com. | So. | Tacoma, Wash. |
| Randall, Clinton Ray | I.A. | Vo. | Newberg |
| Randles, Guy Arthur | C.E. | Fr. | Portland |
| Rands, Harry Allen | Com. | So. | Corvallis |
| Rankin, Dorothy Rosa | Com. | Fr. | Portland |
| Rankin, William John | Agri. | Vo. | Boise, Idaho |
| Ransom, Walter Milton | C.E. | Fr. | Salem |
| Rasmussen, Ralph David | M.E. | Fr. | Tacoma, Wash. |
| Rawlings, Mary Clementine | H.E. | Fr. | Portland |
| Rawlings, Ruth Elizabeth | H.E. | So. | Albany |
| Rawson, Emma Alfreda | H.E. | Sp. | Frankfort, Mich. |
| Ray, Guy | Agri. | Sp. | Corvallis |
| Ray, Margaret Wright | H.E. | Jr. | Portland |
| Ray, Olton | Agri. | Vo. | Chiloquin |
| Raymond, James Adelbert | I.A. | Sp. | Drain |
| Read, Farra Leroy | Phar. | So. | Corvallis |
| Readen, Barton | I.A. | Sr. | Corvallis |
| Readen, Edna Hortense | H.E. | Fr. | Portland |
| Readen, Erma Rowena | H.E. | So. | Portland |
| Readen, Harold Walton | Com. | So. | Portland |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|---------------------|
| Reams, William Hobart | E.E. | So. | Prineville |
| Rearden, John Henry | Com. | Sr. | Corvallis |
| Reberger, Ralph Foster | Agri. | Vo. | Weiser, Idaho |
| Records, Warren Willis | Agri. | Jr. | Freewater |
| Redden, Cecil Vernon | Com. | Vo. | Vancouver, Wash. |
| Redmond, Elizabeth | H.E. | Sp. | Corvallis |
| Reed, Eldred | Engr. | So. | Corvallis |
| Reed, Miriam | Com. | Fr. | Portland |
| Reed, Russell Oakley | E.E. | Fr. | Estacada |
| Reeher, Howard Allen | I.A. | Vo. | Portland |
| Rees, Helen | H.E. | So. | Marshall |
| Reeves, Carroll | M.E. | Jr. | Hillsdale |
| Regnell, Lloyd Clifford | For. | Sr. | Hood River |
| Regnell, Walter Barton | Com. | Vo. | Hood River |
| Reichart, Natalie | Phar. | Jr. | Corvallis |
| Reid, Anna Frances | H.E. | Fr. | Portland |
| Reid, Ralph | Ch.E. | Jr. | Sacramento, Cal. |
| Reiling, Arthur Lawrence | Phar. | Fr. | Hillsboro |
| Reider, Mary Helen | H.E. | Fr. | Rivera, Cal. |
| Reiman, Alma Emma | Com. | Fr. | St. Maries, Idaho |
| Reiman, Elmer Ellsworth | Agri. | Sp. | Monroe, Wash. |
| Reiman, Ervin Carl | Agri. | So. | St. Maries, Idaho |
| Reimann, Walter Arnold | Agri. | Vo. | Denmark |
| Reinhart, Chester Leland | M.E. | So. | Foster |
| Reith, Helen | H.E. | Fr. | Astoria |
| Renhard, Carl Eskil | Agri. | Fr. | Colton |
| Renton, Alonson Packard | E.E. | Fr. | North Bend |
| Resing, Lucille | Phar. | Jr. | Portland |
| Reynolds, Earl | Agri. | Sr. | La Grande |
| Reynolds, Gladys Opal | H.E. | Sr. | Independence |
| Reynolds, Roe | Agri. | Jr. | La Grande |
| Reynolds, Joel Clifford | Agri. | Fr. | Portland |
| Reynolds, John Laurin | C.E. | Fr. | Portland |
| Reynolds, Loren | E.E. | Jr. | Seaside |
| Reynolds, Roy Raymond | Agri. | Vo. | Eugene |
| Reynolds, Trevis Fenton | M.E. | Fr. | Seaside |
| Rhea, Hugh | M.E. | Jr. | Echo |
| Rhea, Irene Barbara | Phar. | Fr. | Corvallis |
| Rhein, George | Agri. | Vo. | Two Rivers, Wis. |
| Rhoads, Robena Beulah | H.E. | Fr. | Portland |
| Rice, Beatrice | Com. | Jr. | Myrtle Creek |
| Rice, Lory Earl | Agri. | Fr. | Eagle, Idaho |
| Rice, Philip Richard | Agri. | Fr. | Walla, Walla, Wash. |
| Rich, Theresa Agnes | Com. | Fr. | Portland |
| Rich, Vida Nell | Com. | So. | Seward, Alaska |
| Rich, Walter Barton | E.E. | Fr. | Portland |
| Richards, Charles Claude | Agri. | Fr. | Cambridge, Idaho |
| Richardson, Cyril Vernon | Com. | So. | Portland |
| Richardson, John Marvin | Com. | So. | Portland |
| Richardson, Paul Kress | Min. | So. | Salem |
| Richardson, Thelma Jeraldine | Com. | Sp. | Pendleton |
| Richart, Ralph James | Agri. | Fr. | Pacific Beach, Cal. |
| Riches, Eugene Clyde | | Vo. | Silverton |
| Riches, Frank Adelbert | Agri. | Sp. | Silverton |
| Richmond, Glenn Albert | Agri. | Fr. | Rathdrum, Idaho |
| Richmond, Nell Heloise | H.E. | Fr. | Portland |
| Richter, Paul Eugene | Agri. | Sr. | Oak Grove |
| Rickard, John Thurston | Agri. | Fr. | Corvallis |
| Rickard, Margaret Laura | Phar. | Fr. | Corvallis |
| Rickson, Carl August | For. | Jr. | Portland |
| Riddell, Christine Elsie | Com. | So. | Mountainhome, Idaho |
| Riddle, Julius | E.E. | Jr. | Roseburg |
| Ridgley, Robert George | M.E. | Fr. | Corvallis |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|----------------------|
| Riggs, George Samuel | I.A. | Vo. | Mabel |
| Riggs, Henry Elvie | I.A. | Vo. | Stayton |
| Riggs, Leib | Ch.E. | Jr. | Corvallis |
| Riippa, Wainard | Min. | Sr. | Astoria |
| Rinearson, Leonard Everett | C.E. | Fr. | Milwaukie |
| Rinehart, Marion Wilbert | C.E. | Fr. | Condon |
| Ringler, Robert Lester | M.E. | So. | Portland |
| Rising, Lewis Wait | Ch.E. | Fr. | Irrigon |
| Rissberger, John Matthies | E.E. | Sp. | Oregon City |
| Ritchie, Douglas William | Agri. | Sr. | Corvallis |
| Ritchie, Horace Bradford | Phar. | Fr. | Corvallis |
| Ritter, Carrie | H.E. | Fr. | Portland |
| Ritter, Herman Mathies | Agri. | So. | Pasadena, Cal. |
| Robbins, Duane Hardie | Com. | Fr. | Molalla |
| Robbins, Esther Isabelle | H.E. | Fr. | McMinnville |
| Roberts, Homer Lee | Com. | Sp. | Vale |
| Roberts, Irving Clifford | E.E. | So. | Salem |
| Roberts, Mary Vondberg | H.E. | Sp. | Boise, Idaho |
| Robertson, Alfred | Ch.E. | So. | Portland |
| Robertson, Irwin Justus | E.E. | Fr. | Turner |
| Robertson, Russell Ruford | Agri. | Vo. | Juntura |
| Robinson, Burton Kenson | Com. | Fr. | Corvallis |
| Robinson, Elise Daphne | Op. | | Cambridge, Idaho |
| Robinson, Harold Baldwin | Com. | Jr. | Forest Grove |
| Robinson, Irene | H.E. | Jr. | Forest Grove |
| Robinson, Jennings Bryan | Agri. | Vo. | Corvallis |
| Robinson, John Reginald | Agri. | Fr. | Grants Pass |
| Robinson, Paul Evans | E.E. | Fr. | Mapleton |
| Robison, Idna Aletha | H.E. | Jr. | Coquille |
| Robison, Manley Frank | M.E. | Vo. | Junction City |
| Robson, Ella Dunlap | H.E. | Fr. | Corvallis |
| Roche, Chester | Agri. | Jr. | Corvallis |
| Rockwood, Eunice Garnett | H.E. | Fr. | Roswell |
| Rodgers, Dick | M.E. | So. | Bandon |
| Rodolf, C. F. | C.E. | Jr. | Corvallis |
| Roehr, Frank George | Agri. | So. | Portland |
| Roehrig, Frederick Austin | E.E. | Sr. | Pasadena, Cal. |
| Rogers, Darwin | Agri. | So. | Tacoma, Wash. |
| Rogers, George Dewey | Com. | Fr. | Tacoma, Wash. |
| Rogers, Lavina | Com. | Jr. | Portland |
| Rogers, Lucy Elizabeth | H.E. | Jr. | Toledo |
| Rogers, Mabel Olaf | Com. | Fr. | Tacoma, Wash. |
| •Rogers, Margaret | Com. | Jr. | Sacramento, Cal. |
| Rogers, Max Franklin | Com. | Fr. | Portland |
| Rogoway, Morris | Com. | Fr. | Portland |
| Rohrer, William Russell | Com. | So. | West Riverside, Cal. |
| Roland, Edward Francis | Com. | Fr. | Fresno, Cal. |
| Rollins, Francis | Min. | Fr. | Hillsboro |
| Romig, Dorothy | H.E. | Fr. | Baker |
| Romig, James | Min. | Fr. | Baker |
| Rondeau, Carlton Strong | I.A. | Fr. | Corvallis |
| Root, Merle Josephine | Phar. | So. | Vancouver, Wash. |
| Root, Ralph Emerson | Agri. | Fr. | Pleasant Valley |
| Rorden, Wilma | H.E. | Fr. | Petaluma, Cal. |
| Rose, Charles Duncan | Agri. | Jr. | Seattle, Wash. |
| Rose, Merrill Dale | Com. | Fr. | Portland |
| Rosebraugh, Arthur | Com. | Fr. | Salem |
| Rosebraugh, Frank Walton | E.E. | Fr. | Corvallis |
| Rosebraugh, Zanana Ruth | H.E. | Fr. | Corvallis |
| Roseman, Arthur Mills | Agri. | Sr. | Amity |
| Rosen, Morris | Ch.E. | Jr. | Los Angeles, Cal. |
| Rosenboom, Gus Henry | I.A. | Sp. | Oregon City |
| Rosenlof, Pearl Crystal | H.E. | Jr. | Nampa, Idaho |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------------|-------------------|-------------|---------------------|
| Rosenquest, Vera | H.E. | So. | Salem |
| Rosenstock, Susan Jane | H.E. | Fr. | Manila, P. I. |
| Rosenstock, Wanda Dolores | H.E. | So. | Manila, P. I. |
| Rosenthal, Lionel Harold | C.E. | Fr. | Portland |
| Roser, Edgar Noell | E.E. | So. | Roseburg |
| Ross, Arthur | Agri. | Fr. | Salem |
| Ross, Dorothy Evelyn | H.E. | Fr. | Hermiston |
| Ross, Frank Earl | Min. | Jr. | Central Point |
| Ross, Harold Eugene | M.E. | Fr. | Eugene |
| Ross, Helen Mossman | Phar. | Sp. | Portland |
| Ross, Kirby Stewart | Com. | Sp. | Portland |
| Ross, Lucile | H.E. | Sr. | Eugene |
| Ross, Paul Kenneth | Ch.E. | Fr. | Pasadena, Cal. |
| Ross, Reginald Leith | Com. | Vo. | Orchards, Wash. |
| Ross, Robert Bishop | M.E. | Fr. | Mosier |
| Rostock, Chris Lester | Agri. | Vo. | Davenport, Iowa |
| Rothschild, Mildred Elsie | Phar. | Fr. | Portland |
| Rounds, Wallace Thornton | I.A. | Vo. | Corvallis |
| Routledge, George Hollister | Min. | So. | Portland |
| Rowland, Sarah Lucile | H.E. | So. | Rickreall |
| Rowland, Loyd Garth | Agri. | Vo. | Carlton |
| Ruby, Bessie | Com. | Fr. | McMinnville |
| Ruch, Laurence Edwin | Agri. | Vo. | Applegate |
| Rudesiel, Helen Esther | Phar. | Fr. | Seaside |
| Rugh, Ramey Warren | Com. | Fr. | Eugene |
| Runyan, Violet Ruth | Com. | Fr. | Chinook, Mont. |
| Runyard, Donald Austin | Com. | Fr. | Medford |
| Rush, Roy Cecil | Agri. | Fr. | Tulare, Cal. |
| Rusher, Glenn Odell | I.A. | So. | Gresham |
| Russ, Peter Joseph | I.A. | Vo. | Gervais |
| Russell, Carl | E.E. | Jr. | Sweet Home |
| Russell, Charles Joseph | Agri. | Jr. | Pendleton |
| Russell, Earl Everett | E.E. | Fr. | Rainier |
| Russell, Leal Henderson | Com. | So. | La Grande |
| Russell, Leonard Clarence | Phar. | Fr. | North Bend |
| Russell, Lewis Henry | Agri. | So. | Payette, Idaho |
| Ruth, Percy | Com. | Fr. | Corvallis |
| Rutherford, Gerald Alan | Com. | Fr. | Portland |
| Claude, Ryan | M.E. | Fr. | Orange, Cal. |
| Ryan, Katherine Evelyn | Op. | | Weiser, Idaho |
| Ryan, William Edward | Agri. | So. | Scio |
| Rycroft, Forest | Agri. | Jr. | Corvallis |
| Rydell, Ethel Elizabeth | Com. | Fr. | Willamina |
| Rydell, Louis Ernest | C.E. | So. | Willamina |
| Ryder, Florence | H.E. | So. | Albany |
| Sabin, Lynn Platt | Com. | Sr. | Grants Pass |
| Sabin, Marion | H.E. | Fr. | Grants Pass |
| Sackman, Walter Corvin | For. | Vo. | |
| Salstrom, Edward John | Min. | Fr. | Portland |
| Salstrom, Joseph William | Com. | Fr. | Portland |
| Sams, Alonzo Lyle | E.E. | Fr. | Ashland |
| Samuelson, Olga Alfreda | Com. | Fr. | Gladstone |
| Samuelson, Oliver Lorenzo | Agri. | Jr. | Brownsville |
| Sanborn, Lynn Durrell | Agri. | Jr. | Los Angeles, Cal. |
| Sanborn, Olive May | H.E. | So. | Los Angeles, Cal. |
| Sanders, Clement | M.E. | Fr. | Portland |
| Sanders, Hazel Daphne | H.E. | Fr. | Athens |
| Sandon, Grace Rea | Com. | So. | Corvallis |
| Sandon, Harry George | M.E. | So. | Astoria |
| Sandwick, Arnold Thomas | For. | Fr. | Corvallis |
| Sarpola, Henry Garfield | Phar. | Fr. | Astoria |
| Saubert, Eleanor | Com. | Jr. | Spokane, Wash. |
| Saucerman, Irva | C.E. | Fr. | Sutherlin |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-------------------------------|-------------------|-------------|---------------------|
| Saunders, Esther | Com. | Jr. | Richland |
| Saunders, Wilford | E.E. | Fr. | The Dalles |
| Savage, Guy Everett | M.E. | So. | Portland |
| Sawyer, Maynard | Phar. | So. | Amity |
| Sawyer, Maurice Fred | Agri. | Fr. | Whittier, Cal. |
| Say, John McDonald | Agri. | Sp. | Sherwood |
| Scanlon, Arline Everilde | H.E. | Fr. | Portland |
| Scarth, Ardath Marie | H.E. | Jr. | Caldwell, Idaho |
| Scarth, James Anstruther | Agri. | Fr. | Portland |
| Scea, Helen Lenore | H.E. | Sr. | Milton |
| Scea, Paul Waldie | Com. | Jr. | Milton |
| Schafer, Villa Florence | Com. | Fr. | Richfield, Idaho |
| Scharpf, Alma Ethelyn | H.E. | So. | Portland |
| Schieman, Alfred | I.A. | Vo. | Aumsville |
| Schiewe, Benjamin | M.E. | Jr. | Portland |
| Schille, Anthony George | M.E. | So. | Portland |
| Schlegel, Paul Edwin | C.E. | So. | Corvallis |
| Schloeman, Carl Waldo | Agri. | Vo. | Glide |
| Schloeman, Sidney Gustaf | M.A. | Vo. | Glide |
| Schlosser, George Harold | I.A. | Vo. | Sunnyside, Wash. |
| Schmidt, Reinhold | M.E. | So. | Grants Pass |
| Schminky, Harold Bruce | C.E. | Sr. | Eagle Creek |
| Schneider, Nicholas | Com. | So. | Portland |
| Schriver, Clyde Cougar | Agri. | Vo. | Ione |
| Schraeder, William Amil | Phar. | Fr. | Aloha |
| Schrepel, Marie Frederika | Op. | | Corvallis |
| Schroeder, William Walter | Com. | So. | Portland |
| Schubert, Placidus James | E.E. | So. | Corvallis |
| Schultz, Louis Frederick | Com. | Fr. | Forest Grove |
| Schultz, Ruth Orville | Com. | Fr. | Salem |
| Schumacher, Benjamin Franklin | Com. | So. | Portland |
| Schumacher, Winnie Lillian | H.E. | Vo. | Heisson, Wash. |
| Schutt, Marjorie Laura | H.E. | Sr. | Corvallis |
| Schuttpelz, Adolph | M.E. | Fr. | Lakeside |
| Schwarz, Sigmund Caesar | Ch.E. | Sr. | Portland |
| Schwind, George Julius | M.E. | So. | Portland |
| Scollard, Cecil Joseph | Agri. | So. | Woodburn |
| Scoth, Harold Davidson | Agri. | Fr. | Puyallup, Wash. |
| Scott, Helena | H.E. | Fr. | Corvallis |
| Scott, Jennie Ritchie | Agri. | Sp. | Corvallis |
| Scott, Mary Ritchie | Agri. | Sp. | Corvallis |
| Scott, Millard Lawton | Agri. | Fr. | Whittier, Cal. |
| Scott, Walter Alvin | Agri. | Sp. | Corvallis |
| Scott, William | Phar. | Sp. | Corvallis |
| Scotton, Edwin Bety | C.E. | Jr. | Portland |
| Schimsher, Maxine Margaret | Com. | Fr. | Pendleton |
| Scroggen, Benjamin Ralph | Com. | Fr. | Portland |
| Searcy, John Logan | C.E. | Fr. | Moro |
| Searcy, Philip Thomas | Agri. | Vo. | Moro |
| Searcy, Seral Ward | Com. | Fr. | Moro |
| Sears, Margaret Katherine | Agri. | Fr. | Medford |
| Seawell, John Leonard | Agri. | Sp. | Milton |
| Sebo, Clarence | Agri. | Sr. | Silverton |
| Sedgwick, George Bearby | E.E. | Fr. | Creswell |
| Sedgwick, William Dunn | E.E. | Fr. | Creswell |
| Seely, Claire Randolph | Com. | Jr. | Portland |
| Sefrit, Chas. | Min. | Jr. | Bellingham, Wash. |
| Sefbert, Elvin Dean | M.E. | Fr. | Pendleton |
| Seibert, Emil Edwin | Com. | Sr. | Pendleton |
| Seidl, Albert Carl | Com. | So. | Troutdale |
| Seim, Roy Martin | Agri. | Fr. | Astoria |
| Sein, Antony | Com. | Vo. | Los Angeles, Cal. |
| Sein, Walter | Agri. | Jr. | Los Angeles, Cal. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|---------------------------|-------------------|-------------|---------------------|
| Selder, Ruth Alameda | H.E. | Fr. | The Dalles |
| Sergeant, Clara Myrtle | H.E. | Fr. | Marshfield |
| Sexton, Mildred Augusta | Com. | Fr. | Wenatchee, Wash. |
| Seydel, Francis Reed | Agri. | Fr. | Los Angeles, Cal. |
| Seymour, Elizabeth | H.E. | So. | Forest Grove |
| Shade, Enos Burke | Agri. | So. | Rivera, Cal. |
| Shade, Ruth Reider | H.E. | Vo. | Whittier, Cal. |
| Shanks, John Carlton | E.E. | Fr. | Dallas |
| Shannahan, Ralph Elmo | Agri. | Jr. | Dundee |
| Sharkey, Clements John | Ch.E. | So. | Portland |
| Sharp, Katheryn | H.E. | Sp. | Corvallis |
| Shaw, Courtney Miller | Agri. | So. | Claremont, Cal. |
| Shay, Roger Brainard | Com. | Vo. | Blodgett |
| Seaffer, Clifford Leonal | M.E. | Fr. | Grants Pass |
| Shedd, Frank Raymond | Com. | Sr. | Shedd |
| Shelton, Alva Bennett | Com. | Sp. | Corvallis |
| Shelton, Henry Everett | Com. | Fr. | Pomeroy, Wash. |
| Shelton, Wilbur Walter | Com. | Sr. | Pomeroy, Wash. |
| Sherfy, Harold Everett | Agri. | So. | Lebanon |
| Sherfy, Vesta Elizabeth | H.E. | Jr. | Lebanon |
| Sherman, Gertrude Hyde | H.E. | Fr. | Bisbee, Ariz. |
| Sherrill, Clifford Milton | Com. | Fr. | Roseburg |
| Shirley, Marguerite | Com. | So. | Weiser, Idaho |
| Shoemaker, William Bryan | Agri. | So. | Pasadena, Cal. |
| Short, Eugene Francis | Com. | Jr. | Long Beach, Cal. |
| Short, James Franklin | Agri. | Vo. | Tumalo |
| Shotwell, Jesse Gordon | C.E. | Jr. | Hermiston |
| Shroll, Ivan Isaac | Com. | Fr. | Enterprise |
| Shryder, Orval Everett | Agri. | Fr. | Portland |
| Shumaker, Wayne Reeves | M.E. | Vo. | Jefferson |
| Siegmund, Floyd La Vern | M.E. | So. | Salem |
| Sigle, Charles Marshal | M.E. | Fr. | Portland |
| Sikes, Cyril Pierce | Com. | Fr. | Corvallis |
| Siler, Louise Aileen | H.E. | Sr. | Randle, Wash. |
| Silva, George | Agri. | Vo. | Rancagua, Chile |
| Silva, Julia William | M.E. | Fr. | Rainier |
| Silver, Oscar | E.E. | Sp. | Ashland |
| Silverson, Laurence | Agri. | Vo. | Hoquiam, Wash. |
| Simonson, Helen | Com. | Fr. | The Dalles |
| Simpson, Chas. Eldon | Com. | Sr. | Cochran |
| Simpson, Glenn | Agri. | So. | Ashland |
| Simpson, Willard Dewey | For. | So. | Salem |
| Sims, Bruce Franklin | Com. | Sp. | Portland |
| Sims, Cecile | H.E. | So. | Corvallis |
| Sims, Elburn Thomas | E.E. | Fr. | Portland |
| Sims, Floy Lavelle | H.E. | So. | Meridian, Idaho |
| Sims, Lee Thomas | E.E. | Fr. | Woodburn |
| Sims, Marion Frances | H.E. | Jr. | Corvallis |
| Sinclair, Millard Guerny | | Op. | Emmett, Idaho |
| Sinks, Lenore | H.E. | Sr. | Gresham |
| Skelton, Joe Taff | C.E. | Jr. | Corvallis |
| Skov, Maren Julia | H.E. | Jr. | Ferndale, Cal. |
| Slater, Richard Dudley | C.E. | So. | Salem |
| Slayton, Cloy Wayne | Agri. | Fr. | Hemet, Cal. |
| Sliger, John George | I.A. | Vo. | Midvale, Idaho |
| Slover, Warren Daniel | E.E. | Sp. | Elmsford, N. Y. |
| Smiley, Frank Buron | Agri. | Sp. | Independence |
| Smith, Calvin Reed | Com. | So. | Bend |
| Smith, Donald Grant | Phar. | Fr. | Portland |
| Smith, Doyle Bertis | Com. | Jr. | Salem |
| Smith, Edward Drais | Com. | Vo. | Portland |
| Smith, Edwin Robert | Agri. | Sp. | Albany |
| Smith, Emmet James | C.E. | So. | Gardiner |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-------------------------------|-------------------|-------------|---------------------|
| Smith, Elinor | H.E. | Fr. | Corvallis |
| Smith, Everett | Agri. | Jr. | Pasadena, Cal. |
| Smith, Erie Rounthwaite | E.E. | Fr. | Portland |
| Smith, Frank Sipple | Agri. | Fr. | Lewiston, Mont. |
| Smith, Grace Elizabeth | H.E. | Sr. | Portland |
| Smith, Harvey | Agri. | Sr. | Enterprise |
| Smith, Harry | Com. | So. | Reedsport |
| Smith, Hazel June | H.E. | So. | Lewistown, Mont. |
| Smith, Jasper Clyde | Agri. | Vo. | Newberg |
| Smith, John Wendell | M.E. | Fr. | Kerby |
| Smith, John | Agri. | Sp. | Thompsonville, Ill. |
| Smith, Laurence | Com. | Sp. | South Bend, Wash. |
| Smith, Leslie Leeper | E.E. | So. | Corvallis |
| Smith, Lewis | E.E. | So. | Missoula, Mont. |
| Smith, Marvin Lester | M.E. | Vo. | Cottage Grove |
| Smith, Muriel Gliddon | H.E. | Fr. | Albany |
| Smith, Orville Charles | Com. | Jr. | Albany |
| Smith, Sara Avis | Com. | So. | Rainier |
| Smith, Sterling William | M.E. | Jr. | Portland |
| Smith, Susie Marie | H.E. | Vo. | Portland |
| Smith, Thos. Hillis | Com. | Jr. | Pomona, Cal. |
| Smith, Veva Alberta | H.E. | Fr. | Salem |
| Smith, Virgil | I.A. | Fr. | |
| Smith, Virginia Middleton | H.E. | Jr. | Ontario |
| Smith, Wallace | Agri. | Sr. | Corvallis |
| Smith, Walter Thomas | Com. | Fr. | Aurora |
| Smith, Will Tedsloff | Ch.E. | Fr. | Sheridan |
| Snider, Marie Isabelle | H.E. | Fr. | Tacoma, Wash. |
| Snider, Wesley Oertel | Agri. | Fr. | Los Angeles, Cal. |
| Snidow, Harriet Vivian | Phar. | Fr. | Willamette |
| Snook, Meurice Carroll | Com. | So. | Madras |
| Snyder, Helen Maxine | Com. | So. | Corvallis |
| Snyder, Homer Pierce | Com. | Vo. | Portland |
| Soden, Harold Edward | Agri. | Fr. | Corvallis |
| Soden, Willard Randolph | Com. | Fr. | Portland |
| Soderstrom, Clarence Randolph | C.E. | So. | Albany |
| Solomon, Clare Wilson | Agri. | Vo. | Everett, Wash. |
| Sorensen, Christian Jean | Ch.E. | So. | Portland |
| Southern, Raymond Duncan | Ch.E. | Jr. | Corvallis |
| Spain, Gail Elliott | M.E. | Sr. | Portland |
| Spaulding, Ila Loleta | H.E. | So. | Salem |
| Spencer, Roy Earl | E.E. | Fr. | Prairie City |
| Specht, Mabel | H.E. | Sr. | Portland |
| Spelbrink, Elsie Elleanor | | Op. | Macleay |
| Spencer, Dean | E.E. | So. | Portland |
| Spencer, George Fenton | Agri. | So. | Portland |
| Spencer, Lotta Gertrude | | Op. | La Grande |
| Spencer, Mildred Jeanette | Agri. | Jr. | Pacific Grove, Cal. |
| Spike, Eleanor May | H.E. | Fr. | Echo |
| Spike, Frances Miriam | H.E. | Fr. | Echo |
| Spires, Elton Cyrus | Agri. | Jr. | Myrtle Point |
| Spires, Roy | C.E. | So. | Myrtle Point |
| Spitzbart, Leo | Agri. | Jr. | Salem |
| Spoerry, Bess | H.E. | Sp. | Corvallis |
| Spoerry, Gottfried Wells | Ch.E. | Sp. | Deceased |
| Spriggs, Glenn Elwyn | Com. | Jr. | Medford |
| Spriggs, James Llewellyn | Agri. | Sr. | Medford |
| Spring, Reuben Fred | Agri. | Fr. | Milwaukie |
| Squires, Theodore Austin | Agri. | Fr. | Thane, Alaska |
| Staats, Vere Leslie | Phar. | Sr. | Dallas |
| Stacy, Opal May | Com. | Fr. | Medford |
| Stafford, Royle Raymond | Agri. | Jr. | Altoona, Kan. |
| Stallings, Gussie Ola | H.E. | Sr. | Everett, Wash. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|---------------------|
| Stamm, Robert Andrew | E.E. | So. | Eugene |
| Staples, Harvey Delbert | Com. | Vo. | Astoria |
| Starker, Caroline Marguerite | Com. | So. | Portland |
| Starkey, Edward Bragdon | Agri. | Jr. | Prosser, Wash. |
| Starkey, Fred Eugene | Agri. | Sp. | Prosser, Wash. |
| Starr, Eugene Carl | E.E. | Fr. | Falls City |
| Starr, Gertrude Ilona | Com. | Sp. | Yachats |
| Stearns, Arvilla Marae | H.E. | Fr. | Lebanon |
| Stearns, Ernel Everett | M.E. | Jr. | Ashland |
| Stearns, Howard Cecil | Agri. | Vo. | Portland |
| Stearns, Max | Agri. | Fr. | Portland |
| Stebbins, Alice May | H.E. | Vo. | Whittier, Cal. |
| Steel, Joseph Irvine | For. | So. | Portland |
| Steele, Clarence William | M.E. | Fr. | Portland |
| Steele, Isabelle Alice | H.E. | Jr. | Portland |
| Steele, Leighton Howard | Com. | So. | Portland |
| Steele, Ruth | H.E. | Sr. | Creswell |
| Steele, Zella Dorothy | H.E. | Fr. | Creswell |
| Stein, William Frank | E.E. | Fr. | Portland |
| Steininger, Maude Ellen | H.E. | Sp. | Molalla |
| Stelling, John Lloyd | Agri. | Jr. | San Jose, Cal. |
| Stenback, Raymond Howard | Com. | So. | Summit |
| Stenstrom, Lloyd Clifford | Min. | Fr. | Salem |
| Stephens, Anna Eileen | H.E. | Fr. | Portland |
| Stephens, Robert Vance | Agri. | Vo. | Corvallis |
| Stephenson, Inez | Com. | So. | Baker |
| Stephenson, James Ross | Phar. | Fr. | Centralia, Wash. |
| Steusloff, Claude | Agri. | Sr. | Salem |
| Stevenson, Harold | Phar. | Jr. | Halsey |
| Stevenson, Herbert William | For. | Fr. | Portland |
| Stevens, Edwin Charles | I.A. | Vo. | Yachats |
| Steward, Albert | Agri. | Jr. | Omak, Wash. |
| Steward, Celia B. Speak | H.E. | Vo. | Corvallis |
| Stewart, Dora Belle | Com. | Fr. | Albany |
| Stewart, Harold | C.E. | Fr. | Agra, Okla. |
| Stewart, Harold | M.E. | Fr. | Portland |
| Stewart, James Ivan | Com. | Jr. | Corvallis |
| Stewart, James Oscar | Agri. | Jr. | Lorella |
| Stewart, John Lee | Phar. | Fr. | Moro |
| Stewart, Louis Francis | Agri. | Jr. | Athens |
| Stewart, Raymond Earnest | M.E. | Fr. | Carlton |
| Stewart, Robert Alex | Agri. | Jr. | Portland |
| Stewart, Ruth Carson | H.E. | Sr. | Athens |
| Stewart, Ruth | H.E. | Sr. | Portland |
| Stimson, Julia Fern | H.E. | Fr. | Corvallis |
| Stinson, Richard Brodrick | Agri. | So. | Portland |
| Stockman, Joseph Lowell | Agri. | So. | Pendleton |
| Stockton, Mary Edith | H.E. | Vo. | Milwaukie |
| Stoddard, Howard James | Com. | So. | La Grande |
| Stohler, Henry Alfred | M.E. | Vo. | Hillsboro |
| Stokes, Claude Lee | Agri. | Vo. | Portland |
| Stoller, Fred Edward | I.A. | Vo. | Trout Lake, Wash. |
| Stoltenberg, Pete August | Agri. | Sp. | Independence |
| Stone, Harold Buford | E.E. | Fr. | Ashland |
| Stoneberg, Emily | H.E. | So. | Coburg |
| Storgard, Andrew Eric | Min. | So. | Marshfield |
| Storgard, Anna Elvira | Com. | Fr. | Marshfield |
| Stout, Isabelle Vera | Com. | So. | Onalaska, Wash. |
| Stoutenburg, Archie | M.A. | Vo. | Amity |
| Stow, Fern Leota | H.E. | Fr. | McMinnville |
| Strader, Frank | Agri. | Vo. | Dixonville |
| Strahl, Newton Fenton | Com. | Jr. | Centerville, Wash. |
| Strahorn, Edward Siddens | Com. | Fr. | Pendleton |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| Strain, Hazel Marie | H.E. | Jr. | Pendleton |
| Stralton, Lorena Alberta | H.E. | Jr. | Medford |
| Strand, John Arnold | Phar. | Fr. | Portland |
| Strang, Vernon Bryan | Com. | Fr. | Lynn, Ind. |
| Straub, Harry | Agri. | Vo. | Corvallis |
| Straub, Samuel | Com. | Fr. | Corvallis |
| Straw, Bertha Azora | Phar. | So. | Woodburn |
| Streiff, David | Com. | Fr. | Hillsdale |
| Streyffeler, Percy Lynn | C.E. | Fr. | Salem |
| Strief, Hazel Jean | H.E. | Sr. | Portland |
| Strohecker, Sam Martin | M.E. | Sp. | Portland |
| Strong, Chas Wesley | Com. | Jr. | Monmouth |
| Strong, Clarence Charles | Agri. | Fr. | Washougal, Wash. |
| Strong, Martha Hazel | H.E. | Vo. | Trout Grove |
| Strong, Ralph | Com. | So. | Elk City, Idaho |
| Strout, Edna Ethelwyn | H.E. | Fr. | Amity |
| Stuart, Julia Merle | H.E. | So. | Portland |
| Studer, George Alfred | M.E. | Fr. | Portland |
| Stutz, Lelia Bertha | H.E. | Sr. | Corvallis |
| Sullivan, Francis Jeremiah | Com. | Vo. | Gervais |
| Sullivan, Herbert Vincent | Agri. | Fr. | Hermiston |
| Summers, Robert Edward | M.E. | Fr. | Portland |
| Summers, Stanley | Com. | So. | Lebanon |
| Sutter, Leo Robert | M.A. | Vo. | Salem |
| Sutton, Arlouine Clevenger | | Op. | Athens |
| Sutton, George Charles | Agri. | Vo. | Cashmere, Wash. |
| Svenson, Lynette Joyce | Com. | Jr. | Astoria |
| Swaggerty, James | M.E. | Jr. | Walla Walla, Wash. |
| Swall, Lillard Trask | I.A. | Jr. | Tulare, Cal. |
| Swall, Victor Ray | M.E. | Fr. | Tulare, Cal. |
| Swan, Alexander Grant | Agri. | Jr. | San Dimas, Cal. |
| Swan, Harry Twiss | Min. | Jr. | Baker |
| Swanson, Conrad Anselm | M.E. | Fr. | Stevenson, Wash. |
| Swanson, Edgar Hearst | Agri. | So. | Forest Grove |
| Swarthout, Donald Mynard | Agri. | So. | Corvallis |
| Swatman, Elmer Lee | Phar. | Vo. | New Plymouth, Idaho |
| Sweek, Esther | H.E. | So. | Burns |
| Sweek, Lois | H.E. | Sp. | Burns |
| Sweeney, Edmund James | For. | Fr. | Portland |
| Sweeney, Elynore Dorothea | Com. | Sr. | Walla Walla, Wash. |
| Taber, Joseph Wesley | C.E. | So. | Los Angeles, Cal. |
| Tadlock, M. C. | Ch.E. | Jr. | Olympia, Wash. |
| Talbot, Joseph Bovelle | Agri. | Fr. | Umatilla |
| Tapp, Vincent Gregor | I.A. | Sp. | Ridgefield, Wash. |
| Tarnasky, Emily Amy | H.E. | Vo. | Portland |
| Tasto, Hilbert Carl | Com. | So. | Salem |
| Tate, David Gekeler | Agri. | Jr. | Boise, Idaho |
| Taube, Henry Herbert | Agri. | Fr. | Woodland, Wash. |
| Taylor, Fred Arthur | Com. | Jr. | Medford |
| Taylor, Byron James | C.E. | Sp. | Corvallis |
| Taylor, Chas. Everett | Agri. | So. | Monroe, Wash. |
| Taylor, Dorothy Marion | H.E. | Vo. | Macleay |
| Taylor, Elbert Vance | Com. | Fr. | Burns |
| Taylor, Everett | Agri. | Fr. | San Dimas, Cal. |
| Taylor, George Benjamin | C.E. | Fr. | North Bend |
| Taylor, Harold Grant | C.E. | Vo. | Portland |
| Taylor, Herbert Alway | Com. | So. | Corvallis |
| Taylor, Herbert Mathew | Com. | So. | Corvallis |
| Taylor, Hugh | Agri. | So. | Corvallis |
| Taylor, Kenneth Somers | Agri. | Jr. | Glendale, Cal. |
| Taylor, Laura Rebecca | H.E. | Fr. | Portland |
| Taylor, Park Elton | C.E. | So. | La Grande |
| Taylor, Raleigh | Phar. | Fr. | Corvallis |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------------|-------------------|-------------|---------------------|
| Taylor, Rhoda Mae | H.E. | Sp. | Corvallis |
| Taylor, Robert Brewster | Agri. | Jr. | Long Beach, Cal. |
| Taylor, Stephen Leonard | Agri. | Jr. | San Dimas, Cal. |
| Tebb, Gordon Edward | Com. | Sp. | Aberdeen, Wash. |
| Teeters, Benetta Fae | H.E. | Sp. | Dorena |
| Teeters, John Maurice | For. | Fr. | Dorena |
| Teevin, Joseph Francis | Agri. | Vo. | Seaside |
| Telford, Wilbur Linden | M.E. | Jr. | Corvallis |
| Tellefson, Selmer | Min. | Fr. | Albany |
| Terada, Yoshio | Agri. | Jr. | Honolulu |
| Terhune, John Clarence | E.E. | Sp. | Jefferson |
| Test, Fred Joseph | C.E. | So. | Ontario |
| Teutsch, William Leroy | Agri. | Sr. | Nyssa |
| Thacker, James Hulette | C.E. | Fr. | Corvallis |
| Thacker, Richard Thomas | Agri. | So. | Corvallis |
| Tharp, Lawrence Dean | M.E. | Fr. | Athens |
| Thomas, James | M.E. | Fr. | Junction City |
| Thomas, John Bert | M.E. | Fr. | Junction City |
| Thomas, Le Roy Clinton | Agri. | So. | Philomath |
| Thomas, Marvin | Agri. | Sr. | Alhambra, Cal. |
| Thomas, Marvin Alva | Phar. | So. | Corvallis |
| Thomas, Rolland Shields | M.E. | Fr. | Long Beach, Cal. |
| Thomas, Seymour | Agri. | Sr. | Alhambra, Cal. |
| Thompson, Amy Ruth | Com. | So. | Corvallis |
| Thompson, Hal Emerson | Phar. | Fr. | Falls City |
| Thompson, John Lewis | Min. | Fr. | Moorpark, Cal. |
| Thompson, John Gordon | Com. | So. | Portland |
| Thompson, Josephine Sophia | Com. | Sr. | Seaside |
| Thompson, Leslie Paul | M.E. | So. | Corvallis |
| Thompson, Leslie Rae | M.E. | So. | Island City |
| Thompson, Warren Jay | Phar. | Fr. | Island City |
| Thomson, Stanley Aaron | Phar. | Jr. | Corvallis |
| Thorpe, Claude Armenius | Agri. | Sp. | Thorp, Wash. |
| Thrasher, Mildred Louise | | Op. | Klamath Falls |
| Throne, Alvin Merrill | Phar. | Sp. | Ashland |
| Throne, Thelma Louise | H.E. | Jr. | Albany |
| Thurston, Jabez William | E.E. | Fr. | Eugene |
| Tibbetts, Joe Wood | Min. | So. | Alameda, Cal. |
| Tierney, Orvine Daniel | M.E. | Fr. | Condon |
| Tilden, Albert Howard | I.A. | Sp. | Nehalem |
| Tilton, Arthur James | Agri. | Sr. | Portland |
| Timberlake, Merleth Burr | M.E. | So. | Newberg |
| Todd, Charles Franklin | Agri. | Sp. | Sumner, Wash. |
| Todd, James Davidson | Agri. | Fr. | Hermiston |
| Todd, Margaret | H.E. | Sr. | Lebanon |
| Tolman, John Everett | C.E. | Fr. | Salem |
| Tolstad, Alice | Com. | Fr. | Valley City, N. D. |
| Tompkins, Pauline | Com. | Fr. | Caldwell, Idaho |
| Towle, Mary Edella | | Op. | Gresham |
| Towne, Elbert Louis | Agri. | Vo. | Corvallis |
| Townsend, Andrew Jackson | Agri. | Vo. | Oakland |
| Townsend, Annie | H.E. | Jr. | Corvallis |
| Toy, Ernest William | Agri. | So. | Pasadena, Cal. |
| Tracy, John Edmund | Com. | Sp. | Albany |
| Trask, Fred | I.A. | Vo. | Corvallis |
| Travis, Merle Dwight | M.A. | Vo. | Portland |
| Traylor, Lela Imogene | H.E. | Fr. | Hoff |
| Trotter, Averill | Com. | So. | Amity |
| Trouton, Hazel Dell | Com. | Vo. | Portland |
| Truedson, Hokan Nathaniel | Com. | Fr. | Gresham |
| Truesdell, Charles | Agri. | Sr. | Redlands, Cal. |
| Tschudy, Henry | I.A. | Vo. | Clackamas |
| Tubbs, Harold | E.E. | Fr. | Molalla |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-------------------------------|-------------------|-------------|---------------------|
| Tubbs, Lester Sawtell | C.E. | Fr. | Molalla |
| Tucker, Floyd Lawrence | Ch.E. | So. | Forest Grove |
| Tuley, William Feagan | Ch.E. | So. | Corvallis |
| Turner, Audrey Huttis | H.E. | Sp. | Miani, Okla. |
| Turner, Dorothy Grace | Com. | Fr. | Ontario |
| Turner, Leslie Mitchell | M.E. | Fr. | Grants Pass |
| Turner, Marguerite | Com. | Sr. | Corvallis |
| Turner, Marjorie | H.E. | Fr. | Ontario |
| Turner, Maynard Ede | Com. | Jr. | Pasadena, Cal. |
| Turpin, Louis Leroy | E.E. | Fr. | Corvallis |
| Tuthill, Allen Fitzerland | Agri. | Fr. | Oakland |
| Tuthill, Lewis Hamilton | M.E. | Sr. | Sutherland |
| Tuttle, Jean Christmas | H.E. | Fr. | Summerville |
| Tycer, Herbert Dean | I.A. | Vo. | Brownsville |
| Tycer, Roy Adrian | Engr. | Jr. | Brownsville |
| Tyrrel, Claude | Agri. | Sr. | Alhambra, Cal. |
| Underwood, Albert | Agri. | Vo. | Monett, Mo. |
| Updegraff, George Gavin | Com. | Fr. | Portland |
| U'Ren, Muriel Elizabeth | H.E. | Jr. | Portland |
| Urquhart, Orrin Robert | Com. | Fr. | Moro |
| Utterback, Ella May | H.E. | Sp. | Monroe |
| Vail, John | Agri. | Vo. | Corvallis |
| Valaer, Virgil Nathaniel | I.A. | Sp. | Walla Walla, Wash. |
| Valentine, Haddon Prentice | E.E. | Fr. | Hamilton, Wash. |
| Van Acker, George Henry | E.E. | Fr. | Cornelius |
| Van Allen, Paul Emmett | Agri. | Fr. | Redmond |
| Van Allen, William Lewis | Com. | So. | Redmond |
| Van Alta, Ellis | E.E. | So. | Yakima, Wash. |
| Van Bibber, Leslie Keyes | I.A. | Vo. | Austin |
| Vance, Jean Elizabeth | Com. | Fr. | Corvallis |
| Van Groos, Doris Alberta | H.E. | Fr. | Corvallis |
| Van Groos, Marjorie Alida | H.E. | Fr. | Corvallis |
| Van Hoesen, Robert Harold | Ch.E. | So. | Corvallis |
| Van Hollebeke, Elvira Dorothy | Phar. | So. | Walla Walla, Wash. |
| Van Hollebeke, Hortense | Com. | So. | Walla Walla, Wash. |
| Vannice, Thomas | I.A. | Jr. | Corvallis |
| Van Stone, Edward Stevens | Agri. | Sp. | Seattle, Wash. |
| Varney, Lois | H.E. | So. | Corvallis |
| Vaughn, William Frank | Com. | Vo. | Portland |
| Veatch, Raymond | Com. | So. | Cottage Grove |
| Veneziano, Nicholas | Agri. | Fr. | Pasadena, Cal. |
| Versteeg, Ray Marion | M.E. | So. | Portland |
| Vestal, Adra Cora | H.E. | So. | Payette, Idaho |
| Vestal, Eudora Harvey | H.E. | Sr. | Corvallis |
| Vestal, James | I.A. | Sr. | Eagle Point |
| Victor, Arthur Earl | | Op. | May View, Wash. |
| Victor, Maimi | Com. | Fr. | Salem |
| Vinyard, Harold Roth | E.E. | Fr. | Canby |
| Von Lehe, Agnes | H.E. | Jr. | Corvallis |
| Von Lehe, Erna | H.E. | Jr. | Corvallis |
| Vorhies, Claude Guy | M.E. | Fr. | Corvallis |
| Wade, Georgia Mae | H.E. | Fr. | Summerville |
| Wade, Marie May | Phar. | Fr. | St. Helens |
| Wade, Roy | Com. | Fr. | Enterprise |
| Wade, Wythel | H.E. | Jr. | Island City |
| Wadsworth, Francis Merle | Com. | Fr. | Portland |
| Waggoner, Paul | Agri. | Vo. | Ritzville, Wash. |
| Wagner, Bernhardt Rudolph | Com. | Fr. | Portland |
| Wagner, Henry John | M.E. | Fr. | Portland |
| Waid, Dollie Dey | H.E. | So. | Yakima, Wash. |
| Wait, Elwood Lee | Com. | Fr. | Sacramento, Cal. |
| Wait, George | Com. | Jr. | Canby |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| Wakefield, Harold Smith | Agri. | Jr. | Fresno, Cal. |
| Wakeman, Annette Elene | H.E. | Sp. | Medford |
| Wakeman, Maurice Mahany | Com. | So. | Medford |
| Walch, Bess | Com. | So. | Portland |
| Waldo, George Fordyce | Agri. | So. | Dayton |
| Walker, Dorothy Irene | Com. | Fr. | Corvallis |
| Walker, George Charles | Ch.E. | Fr. | St. Helens |
| Walker, Ozbun Garad | Com. | Fr. | Portland |
| Walker, Robert Darling | M.E. | Fr. | Los Angeles, Cal. |
| Wall, Millicent | Com. | Jr. | Portland |
| Wallace, Charles Stuart | Agri. | Sp. | Milwaukie |
| Wallace, George Arthur | M.E. | So. | Bishop, Cal. |
| Wallace, Glen Pugh | Com. | Fr. | Lebanon |
| Wallace, Katherine Johana | | Op. | Portland |
| Wallsinger, Harold Warren | Agri. | Fr. | Alicel |
| Walpole, John Kenneth | Agri. | Jr. | Portland |
| Walpole, Ralph Goudy | E.E. | Fr. | Irrigon |
| Walpole, Sidney | For. | Fr. | Portland |
| Walsh, Mae Gertrude | H.E. | Fr. | Portland |
| Walsted, John Palmer | Ch.E. | Jr. | Portland |
| Walter, Orville Lee | C.E. | Fr. | Ontario |
| Walters, Eugene Paul | Com. | Fr. | Hillyard, Wash. |
| Walther, Albert August | C.E. | So. | Portland |
| Walysraen, Richard William | M.E. | Vo. | Sherwood |
| Wanless, Rupert | C.E. | Fr. | Newberg |
| Ward, Clifford Byron | Com. | Fr. | Freewater |
| Ward, Clyde | Agri. | Sp. | Baker |
| Ward, Ferris Edison | I.A. | Vo. | Halsey |
| Ward, Lillian Alice | H.E. | Sr. | Portland |
| Waring, Thomas Glenn | C.E. | So. | Portland |
| Warman, Loyd Thomas | I.A. | Vo. | Corvallis |
| Warner, Willard Milton | Com. | Sp. | Jefferson |
| Warren, Almon Alanson | Agri. | Sp. | Elma, Wash. |
| Warren, Jessie Hazel | H.E. | Fr. | Bay City |
| Warrens, Robert Hewett | Agri. | Jr. | Hillsdale |
| Warriner, Newton Embry | C.E. | Fr. | Hermiston |
| Watenpaugh, Harold | Agri. | Sr. | Corvallis |
| Watenpaugh, Howard Norbert | Agri. | Fr. | Ontario, Cal. |
| Waterbury, Carrie | H.E. | Sp. | Woodburn |
| Waterfall, Charles Hardy | Com. | Sr. | Vancouver, B. C. |
| Waterman, Elsworth Yale | Agri. | Jr. | Corvallis |
| Waterman, Ernest Alonzo | Agri. | Fr. | Hermiston |
| Waterman, Mabel (Mrs.) | H.E. | Sr. | Verona, Ill. |
| Waters, Frank Northrup | E.E. | Jr. | New York City |
| Waters, Louemma | H.E. | Fr. | New York City |
| Watkins, Amos | Agri. | Vo. | Portland |
| Watkins, Harold | Agri. | So. | Kalama, Wash. |
| Watkins, Viola | Com. | So. | Sumner, Wash. |
| Watson, Frances Elizabeth | H.E. | So. | Corvallis |
| Watson, Margaret Bourne | Com. | Jr. | Corvallis |
| Watt, Robert Henry | Agri. | Sr. | Bay City |
| Waugh, Robert Walter | H.E. | Jr. | Hood River |
| Waxmugh, William | Agri. | So. | St. Johns |
| Weatherford, Annette Mary | H.E. | Fr. | Corvallis |
| Weatherwax, Fern Allison | H.E. | Sp. | Aberdeen, Wash. |
| Weaver, Maude Rachel | H.E. | Sp. | Salem |
| Webber, Chas. | Agri. | Jr. | Portland |
| Webber, David Edwin | Phar. | So. | Portland |
| Weber, Georgia Muriel | H.E. | Jr. | Halsey |
| Weber, Richard | Agri. | Sr. | Hood River |
| Webster, Earl Adelbert | Agri. | Jr. | Portland |
| Webster, William James | Agri. | Sp. | Arbroath, Scotland |
| Weed, Edith Verna | H.E. | Fr. | Beaverton |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------------|-------------------|-------------|---------------------|
| Weed, Harvey Arthur | Agri. | Vo. | Crawfordsville |
| Weed, Wilbur Wynn | Agri. | Jr. | Beaverton |
| Weeks, Clara ..... | ..... | Op. | Corvallis |
| Weger, Wallace Dewey | Agri. | Sp. | Spokane, Wash. |
| Wehrly, Lawrence Frederick | Phar. | So. | Forest Grove |
| Weidenheimer, Norman William | Min. | Jr. | Corvallis |
| Weigel, William Trudeau | Agri. | Fr. | Pasadena, Cal. |
| Weisenborn, Henry William | Com. | Jr. | Portland |
| Weiss, Zeno Francis | I.A. | So. | Elgin |
| Welch, Wilbur Hazelton | C.E. | So. | Corvallis |
| Weller, George | C.E. | Jr. | Salem |
| Weller, Joseph Barnett | Agri. | Fr. | Mosier |
| Weller, William Henry | M.E. | So. | Portland |
| Wellman, Harry | Agri. | Jr. | Umapine |
| Wells, Harold Earl | Agri. | Fr. | Marcola |
| Werth, Lillian Emma | Com. | Fr. | Portland |
| Werth, Mabel Marguerette | H.E. | Vo. | Willamina |
| West, Flavius | Com. | Jr. | Portland |
| West, Charles Richard | Com. | Vo. | Portland |
| West, George | C.E. | Jr. | Portland |
| West, Harold Frederick | M.E. | So. | Portland |
| West, Lee | Agri. | Vo. | Corvallis |
| West, Marion Lou | H.E. | Sr. | Portland |
| West, Oren James | I.A. | Vo. | Sixes |
| Westering, Myrton Le Roy | Com. | So. | Portland |
| Westering, Ralph Alvin | M.E. | So. | Portland |
| Weston, Elwyn Kelley | Agri. | Fr. | Portland |
| Weythman, Charles Jonathan | Agri. | Vo. | Dufur |
| Wharton, Florence Agatha | Phar. | So. | Roseburg |
| Wheeler, Ethel Cusick | H.E. | Jr. | Portland |
| Wheeler, Eva May | H.E. | Sr. | Tillamook |
| Wheeler, Sheldon | Agri. | So. | Santa Ana, Cal. |
| Wherry, Virginia Frances | H.E. | Fr. | Oakland, Cal. |
| Whipple, Melvin McKinley | M.A. | Fr. | Astoria |
| Whitaker, Raymond Wallace | Agri. | Jr. | McFarland, Cal. |
| Whitaker, William Carey | Agri. | Jr. | Sacramento, Cal. |
| Whitcombe, Charles Raymond | E.E. | So. | Portland |
| White, Arnold Parker | C.E. | Sp. | Vancouver, Wash. |
| White, Harold | Agri. | Sr. | Kerby |
| White, Harold Leon | Min. | So. | Salem |
| White, Irle Eaton | Agri. | So. | Hobson, Mont. |
| White, Pauline | H.E. | Fr. | Tacoma, Wash. |
| White, Sidney Clarke | Com. | Sp. | Portland |
| Whitehorn, Harvey Joseph | I.A. | Sp. | Corvallis |
| Whitehorn, Thomas Wells | Com. | Vo. | Corvallis |
| Whitfield, Byron Dunford | E.E. | Fr. | Portland |
| Whiting, Preston | Com. | So. | Portland |
| Whitman, Clyde | I.A. | Vo. | Woodburn |
| Whitmore, Merritt | E.E. | So. | Portland |
| Whittemore, Charles Allen | Com. | Vo. | Corvallis |
| Wickersham, Harold Bailey | Agri. | Fr. | Alhambra, Cal. |
| Wickersham, Howard Waldo | Com. | Fr. | Alhambra, Cal. |
| Wickman, John Robert | Agri. | Fr. | Hood River |
| Wicks, Clarence Edward | Com. | Fr. | Albany |
| Widby, Arthur | Agri. | So. | Myrtle Point |
| Wiest, Almon Leo | Com. | Fr. | Portland |
| Wiest, Sard Wilbur | Com. | Vo. | Portland |
| Wievesiek, Leslie Adam | Com. | Fr. | Oregon City |
| Wightman, William Thompson | Min. | So. | Pasadena, Cal. |
| Wilbur, Robert Fisher | Agri. | Fr. | Washington, D. C. |
| Wilcox, Herbert George | Agri. | Sp. | Portland |
| Wilderman, Sam Herbert | Phar. | Sp. | Portland |
| Wilderman, Sonia Edyth | H.E. | So. | Portland |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|----------------------|
| Wildin, Howard Watson | Com. | Vo. | Hood River |
| Wildman, John Adrian | Com. | Vo. | Portland |
| Wilhelm, Roger Jesse | Min. | So. | The Dalles |
| Wilkes, Lewa | Phar. | So. | Hillsboro |
| Willard, Frances Elizabeth | H.E. | Sp. | Corvallis |
| Willert, Floyd Byron | For. | Jr. | Corvallis |
| Willett, George Joseph | Com. | Sp. | Roseburg |
| Wiley, Earl Clark | M.E. | Jr. | Corvallis |
| Williamson, Fred Nelson | Agri. | Jr. | Alsea |
| Williamson, Loma | H.E. | Sr. | Corvallis |
| Willoughby, Ralph | Agri. | Sr. | Harrisburg, Ill. |
| Wilmot, Leonard Frank | I.A. | Vo. | Portland |
| Wilt, Clarence Oliver | I.A. | Sp. | Albany |
| Williams, Carl Alfred | Phar. | Jr. | Alpine |
| Williams, Carolyn Flora | Com. | Fr. | Junction City |
| Williams, Charles Walter | Agri. | Sr. | Corvallis |
| Williams, David Thomas | Com. | Sp. | Boise, Idaho |
| Williams, George Martin | Phar. | Fr. | Dryden |
| Williams, Hoige | Com. | So. | Glendale |
| Williams, James Wayne | For. | Jr. | Portland |
| Williams, Lillian | H.E. | Vo. | Milton |
| Williams, Ray Terry | Agri. | Fr. | Corvallis |
| Williams, Sumner | For. | Jr. | Glendale |
| Williams, Wendell William | Agri. | Sp. | Junction City |
| Wilson, Arthur McBeth | Agri. | Fr. | Portland |
| Wilson, Arthur Paul | Phar. | Vo. | Portland |
| Wilson, Austin Harvey | M.E. | Vo. | Salem |
| Wilson, Celia | Phar. | So. | Corvallis |
| Wilson, Charles Wilbur | M.E. | Fr. | Portland |
| Wilson, Frank | C.E. | Jr. | Mosier |
| Wilson, Herbert Albion | M.E. | Fr. | Astoria |
| Wilson, Heston Lawshe | Agri. | Jr. | Hemet, Cal. |
| Wilson, Jesse Elmer | M.E. | Vo. | Burns |
| Wilson, Otis Estee | M.E. | Sr. | Corvallis |
| Wilson, Thad Fisher | E.E. | Fr. | Portland |
| Winn, Gheratine Virginia | H.E. | Fr. | Adams |
| Winslow, Marion Jahugh | E.E. | Fr. | Dufur |
| Winters, Ray Herbert | Agri. | Vo. | Eugene |
| Wise, Zina | M.E. | Jr. | Portland |
| Witt, Eric William | Agri. | Jr. | Portland |
| Wittliff, Jack Allen | E.E. | So. | The Dalles |
| Wohler, Victor Joseph | M.E. | So. | Hillsboro |
| Wolfe, George Hobart | E.E. | Fr. | Brownsville |
| Wolfker, Dorothea Marie | Op. | | Corvallis |
| Walter, George | Agri. | Vo. | Salt Lake City, Utah |
| Womer, Chester Franklin | Com. | Jr. | Estacada |
| Wong, Sam Herbert | E.E. | Fr. | Portland |
| Wood, Clarence Earl | Com. | Vo. | Dryad, Wash. |
| Wood, Herman Ernest | For. | Fr. | McMinnville |
| Wood, Josephine Burger | Op. | | Weiser, Idaho |
| Wood, La Velle | H.E. | Jr. | Corvallis |
| Wood, Lyle Robert | Com. | Sp. | Mill City |
| Wood, Robert | Agri. | Sr. | Sumner, Wash. |
| Wood, William Alfred | C.E. | Fr. | Cascade, Idaho |
| Woodard, Maude Helen | Com. | So. | Long Beach, Cal. |
| Woodard, Roy Sanders | Agri. | Sp. | Long Beach, Cal. |
| Woodruff, Lois Marie | Com. | So. | Roseburg |
| Woods, Clifford Glenn | Agri. | Vo. | La Grande |
| Woods, Marvin Arthur | Phar. | Fr. | Caldwell, Idaho |
| Woods, Sylvia | Phar. | So. | Corvallis |
| Woodward, Anna | Min. | So. | Creswell |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------------|-------------------|-------------|---------------------|
| Woodward, Mary | H.E. | Jr. | Portland |
| Woodward, Percy | Min. | Fr. | Creswell |
| Woodward, Robert Cecil | Agri. | Jr. | Victoria, B. C. |
| Woolverton, Bertha Winifred | Com. | Fr. | Gold Hill |
| Wooton, Pearl Alice | Com. | So. | Portland |
| Wray, Cecil Masters | Agri. | Jr. | New York City |
| Wright, Blanche | Com. | Sr. | Brownsville |
| Wright, Clarence Cuthbert | Com. | Sp. | Portland |
| Wright, Clyde | C.E. | So. | Portland |
| Wright, Frances Maurine | H.E. | So. | Corvallis |
| Wright, Hazen Alger | M.E. | Vo. | Portland |
| Wright, Lynn Calder | Phar. | So. | La Grande |
| Wright, Malcolm Engleman | Ch.E. | Sr. | Vancouver, Wash. |
| Wright, Mildred | | Op. | Salem |
| Wright, Orville | C.E. | Fr. | Alicel |
| Wyatt, Filmore Dale | Min. | Fr. | Cottage Grove |
| Wyld, Reginald Geake | M.E. | Fr. | Portland |
| Yamamoto, Francis | E.E. | Sr. | Seattle, Wash. |
| Yantis, Luther | Min. | Fr. | Baker |
| Yates, Irma | Com. | Sp. | Corvallis |
| Yates, Willard Wilson | Agri. | Jr. | Salem |
| Yexley, Lyle Marion | H.E. | Jr. | Oregon City |
| Yexley, Myrle Allen | H.E. | Jr. | Oregon City |
| Yoe, Harold Sewall | Com. | Sp. | Portland |
| York, Ralph Lee | M.E. | So. | North Powder |
| Young, Austin Merle | E.E. | Fr. | Sherwood |
| Young, Benjamin | Agri. | Vo. | Shelley, Idaho |
| Young, David Roosevelt | Ch.E. | Fr. | Portland |
| Young, Ellsworth | For. | Jr. | Mt. Solo, Wash. |
| Young, Frances Louise | H.E. | Fr. | Portland |
| Young, Garth Lylle | M.E. | Jr. | Portland |
| Young, Helen Louise | Com. | Fr. | Portland |
| Young, Howard Harold | M.E. | Fr. | Mt. Solo, Wash. |
| Young, James Garvin | C.E. | Fr. | Burns |
| Young, John Paul | Agri. | Sr. | Eugene |
| Young, William Nelson | Agri. | Jr. | Seattle, Wash. |
| Yunker, Edwin Arther | M.E. | Fr. | Gresham |
| Zell, Basil Horning | Agri. | Vo. | Salem |
| Ziegler, Hubert | Agri. | Fr. | White Salmon, Wash. |
| Zimmerdahl, Frank William | I.A. | So. | Clatskanie |
| Zimmerman, Roy David | Agri. | Fr. | Aurora |
| Zimmirman, Lois Ione | Com. | Fr. | Silverton |

SUMMER SESSION STUDENTS, 1919

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|------------------------|---------------|---------------------|
| Adams, Hubert Gilman | Sp. | Corvallis |
| Alexander, Clyde M. | Agri. | Dalkena, Wash. |
| Alexander, Marjorie | H.E. | Salem |
| Allen, Clara | Coll. | Corvallis |
| Amick, Dexter F. | Com. | New Pine Creek |
| Amick, Lura | P.E. | Corvallis |
| Amick, Rosa | Coll. | Kent |
| Amick, Tina | Coll. | Corvallis |
| Anderson, Ellen | H.E. | Portland |
| Ariss, Dorothy C. | I.E. | Portland |
| Arrants, Mrs. Fred | P.E. | Corvallis |
| Atwood, Alice L. | H.E. | Corvallis |
| Baker, Irma Hilda | Coll. | Corvallis |
| Barrett, Edmond M. | Agri. | Ashland |
| Barrows, Effie | P.E. | Corvallis |
| Beal, Mrs. L. | H.E. | Corvallis |
| Beal, Josephine | P.E. | Corvallis |
| Beardsley, Florence | Convo. | Corvallis |
| Beatie, John | Sp. | Oregon City |
| Bell, Mary M. | H.E. | Corvallis |
| Bevens, Hazel | Coll. | Corvallis |
| Billings, George A. | I.A. | Seattle, Wash. |
| Binns, Mary Anderson | H.E. | Corvallis |
| Blackden, Sarah | H.E. | Glendale |
| Boies, Etta | H.E. | Moose Jaw, Canada |
| Bond, Beryl Elma | Coll. | Salem |
| Bond, Myrel Alice | Sp. | Eugene |
| Board, Opal Irene | H.E. | Corvallis |
| Bowden, Florence | Com. | Corvallis |
| Boyer, Ralph S. | Agri. | Philadelphia, Pa. |
| Bradbury, Gussie M. | H.E. | Baker |
| Bradley, Pearl R. | H.E. | Woonsocket, S. D. |
| Brander, Alexander | Agri. | Heppner |
| Braun, Elsie | H.E. | Portland |
| Brewer, Mrs. J. W. | P.E. | Corvallis |
| Brewer, Marcia | P.E. | Corvallis |
| Briggs, Merton B. | Sp. | Salem |
| Brode, J. Stanley | Agri. | Dayton, Wash. |
| Broer, Fred Edward | Sp. | Pendleton |
| Brown, George W. | Agri. | Vernonia |
| Brown, Winnona Z. | H.E. | Corvallis |
| Buchanan, F. G. | Sp. | Gladstone |
| Buchanan, Mrs. John G. | Convo. | Corvallis |
| Bungor, Nels Calvin | I.A. | Corvallis |
| Bunker, Bessie Helen | Coll. | Dayton |
| Buntin, Genevieve | P.E. | Corvallis |
| Burgoyne, Elsie L. | Sp. | Portland |
| Burns, Amelia | H.E. | Spokane, Wash. |
| Burns, Thos. Leroy | Com. | White Salmon, Wash. |
| Byers, Lee | I.A. | Hood River |
| Caldwell, Mrs. W. A. | Convo. | Corvallis |
| Cannon, Roy E. | Sp. | Corvallis |
| Chambers, Bernice | P.E. | Corvallis |
| Chambers, Margaret Ann | P.E. | Corvallis |
| Chess, Fred | I.A. | Eugene |
| Clarke, Dorothy | Coll. | Corvallis |
| Clarke, Mrs. Arthur | P.E. | Corvallis |
| Close, Roy S. | I.A. | Astoria |
| Clyde, Dorothea V. | Com. | Corvallis |
| Connell, L. Ora | H.E. | Los Angeles, Cal. |
| Copeland, Alvin S. | Sp. | Glendale, Cal. |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|-------------------------------|---------------|-----------------------|
| Copeland, Herbert Wm. | Sp. | Maupin |
| Copson, June Seely | H.E. | Corvallis |
| Crawford, James Malcolm | Com. | Fresno, Cal. |
| Curry, Margaret E. | H.E. | Anyox, B. C. |
| Curtis, Mrs. N. J. | P. E. | Corvallis |
| Dinges, Grace May | H.E. | Corvallis |
| Denman, Helen | P.E. | Corvallis |
| Dunn, Cora E. | H.E. | Cascade Locks |
| Dryden, Winfield James | Com. | Corvallis. |
| Eagles, Elizabeth | Coll. | Albany |
| Eaton, Frances | H.E. | Hollywood, Cal. |
| Ellestad, Melvin H. | I.A. | Central Point |
| Ervin, Joseph O. | I.A. | The Dalles |
| Ewing, Mary A. | Convo. | Scappoose |
| Everhart, Lestie | Sp. | Portland |
| Ewell, Elaine | H. E. | Portland |
| Ferry, Ralph R. | I.A. | Alfalfa |
| Fisher, Elmer | Sp. | Corvallis |
| Fitts, Mrs. E. B. | Convo. | Corvallis |
| Fitts, Grace E. | Ch. | Lebanon |
| Fleming, Homer R. | Agri. | Joseph |
| Forney, Josephine | Com. | Portland |
| Foster, P. A. | I.A. | Salem |
| Fox, Otto L. | I.A. | Albany |
| Frantz, Pauline | P.E. | Corvallis |
| Frease, Hazel | P.E. | Roseburg |
| Frease, Helen | H.E. | New Underwood, S. D. |
| Frease, Kathryn G. | Sp. | New Underwood, S. D. |
| Freyler, Edna May | Com. | Odell |
| Futtrup, Ellen Marie | Com. | Vancouver, Wash. |
| Futtrup, Niels Willard | I.A. | Vancouver, Wash. |
| Gain, Mrs. Jane | Com. | Corvallis |
| Garvin, Pearl Ethelyn | Com. | Corvallis |
| Geiberger, Anna | H.E. | Tualatin |
| Gilbert, Mrs. Annette | Sp. | Corvallis |
| Gleason, Mrs. B. E. | Sp. | Corvallis |
| Godwin, Marion G. | Agri. | Decatur, Ill. |
| Graf, Mrs. H. A. | P.E. | Bremerton, Wash. |
| Groshong, Fred M. | Sp. | Portland |
| Gully, Edward J. | I.A. | Corvallis |
| Gunn, Mrs. R. V. | P.E. | Corvallis |
| Gunter, Paul A. | I.A. | Gunter |
| Guthrie, Eunice Jane | H.E. | Corvallis |
| Haley, Robert M. | Agri. | Seattle, Wash. |
| Hall, Elizabeth | Sp. | Albany |
| Hall, George J. | Agri. | Cottage Grove |
| Hall, Hildred Juanita | H.E. | Corvallis |
| Hall, Mrs. H. T. | H.E. | Hororato, New Zealand |
| Hall, Margaret Dryden | Agri. | Hororato, New Zealand |
| Hall, Peter Dryden | I.A. | Hororato, New Zealand |
| Hall, Thorland R. | Agri. | Yakima, Wash. |
| Hammel, Blanche R. | Com. | Corvallis |
| Hammond, Louise | H.E. | Corvallis |
| Horst, Claude Wm. | I. A. | Portland |
| Hartsock, Mrs. Samuel | P.E. | Corvallis |
| Harvey, Eudora Mae | H.E. | La Center, Wash. |
| Hawley, Francelle | H.E. | McCoy |
| Haynes, Ross Eaton | Com. | Lebanon |
| Hays, Merle Helena | Sp. | Glide |
| Hayes, Ruth Edna | H.E. | Portland |
| Helm, Geo. Darby | Sp. | Corvallis |
| Hembling, Grace | Sp. | Corvallis |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|------------------------|---------------|-------------------------|
| Hepp, Louis Oscar | I.A. | Woodburn |
| Hicks, Hazel | H.E. | Weiser, Idaho |
| Hicks, Mary M. | P.E. | Corvallis |
| Hochstetler, Simon | I.A. | Woodburn |
| Hoefler, Myron Page | Com. | Astoria |
| Hogshire, Joann | H.E. | Portland |
| Holcolm, Fern C. | Sp. | Cottage Grove |
| Holroyd, Imojean | P.E. | Corvallis |
| Horning, Gladys | H.E. | Corvallis |
| Hopton, Luella | H.E. | Snohomish, Wash. |
| Houck, Agnes Catherine | H.E. | Portland |
| Howard, Esther | Sp. | Corvallis |
| Howard, Mrs. E. W. | P.E. | Corvallis |
| Howard, Ruth Hazel | H.E. | Corvallis |
| Hull, Velma Edwards | Sp. | Mayville |
| Hult, Mrs. G. W. | Convo. | Corvallis |
| Hunsperger, Violet | H.E. | Corvallis |
| Hunting, Ernest A. | I.A. | Prescott, Wash. |
| Ingalls, Mrs. C. E. | Convo. | Corvallis |
| Jackson, Mrs. Emily | H.E. | Troutdale |
| Jennings, John William | I.A. | Corvallis |
| John, S. Helen | H.E. | Corvallis |
| Johnson, Mrs. Adell | Sp. | Corvallis |
| Johnson, Wanda | P.E. | Corvallis |
| Johnston, Jane Agnes | H.E. | Hillsboro |
| Keating, Harriet M. | H.E. | Stockton, Cal. |
| Kelsey, Hazel | H.E. | Columbia City, Ind. |
| Kennard, Ella | Com. | Santa Rosa, Cal. |
| Kennedy, Mitsell M. | H.E. | Portland |
| Kenny, Dora | H.E. | Portland |
| Kernan, Kathryn Anne | Com. | Boise, Idaho |
| Keysaw, Mrs. Maude | H.E. | Walterville |
| Kiger, Martha | Coll. | Corvallis |
| King, Charles A. | P.E. | Medford |
| Kingsbury, Ola Almina | H.E. | Nampa, Idaho |
| Kingsley, Everette | H.E. | Hermiston |
| Klips, Helen | H.E. | Grants Pass |
| Koskenvaara, Emil F. | Agri. | Aberdeen, Wash. |
| Kroschel, Viola | Coll. | Albany |
| Lachele, Clarence E. | Ch. | Salem |
| La Londe, Lillian | P.E. | Seattle, Wash. |
| Lamoreaux, Carrie Jane | Sp. | Portland |
| Landram, Telete | H.E. | Merced, Cal. |
| Langworthy, Ray S. | I.A. | Newberg |
| Lasselle, Pearl Faye | Coll. | Albany |
| La Tourrotte, Rena C. | H.E. | Phoenix, Ariz. |
| Latta, Gertrude Marie | H.E. | Sacramento, Cal. |
| Latta, Harriet Elma | H.E. | Sacramento, Cal. |
| Leathers, Helen Clyde | I.A. | Burton, Wash. |
| Lee, Mrs. Minnie E. | Convo. | Corvallis |
| Lewis, Claudia | P.E. | Corvallis |
| Linton, George | Coll. | Corvallis |
| Livesay, Ruth Haines | H.E. | Hillsboro |
| Livesay, Thayne Miller | I. A. | Hillsboro |
| Maag, Esther Verna | Sp. | Salem |
| de Macedo, William | Agri. | Victoria, B. C. |
| Marcom, Etta | H.E. | Corvallis |
| Marcom, Margaret M. | H.E. | Corvallis |
| Markham, Ruth | P.E. | Corvallis |
| Marshall, Mrs. F. S. | H.E. | Briarcliff Manor, N. Y. |
| Martin, Lois Mable | H.E. | McMinnville |
| McDowell, Hattie M. | Agri. | Chemawa |
| McGirr, Horace Donald | Com. | Corvallis |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|---------------------------------|---------------|----------------------|
| McLaughlin, Mrs. J. O. | H.E. | Corvallis |
| McMullin, Pearl Etta | Sp. | Springfield |
| Mechlin, Mrs. Harper | P.E. | Corvallis |
| Meloy, Kathleen O. | Com. | Moro |
| Meloy, Lula | Com. | Moro |
| Mendenhall, Marie | H.E. | Everett, Wash. |
| Miller, Eula Ellen | H.E. | Corvallis |
| Miller, Grace | Coll. | Tillamook |
| Miller, Harry Lee | Coll. | Tillamook |
| Miller, Homer | Ch. | Corvallis |
| Miller, Mary Valerie | Coll. | Tillamook |
| Miller, Maude | Coll. | Tillamook |
| Mitchell, Grace E. | H.E. | Medford |
| Moon, Bertha C. | H.E. | South Pasadena, Cal. |
| Moon, Warren Wells | I.A. | Newberg |
| Moore, Londessa Leone | Coll. | Corvallis |
| Moore, Maple Dell | Sp. | Wilbur |
| Morgan, Irene | P.E. | Corvallis |
| Morgensen, Louise | H.E. | Maupin |
| Morris, Alice Emily | P.E. | Yamhill |
| Morse, Mrs. Ruth L. | H.E. | Stockton, Cal. |
| Motley, Jessie W. | I.A. | Durkee |
| Mulkey, Columbus A. | I.A. | Salem |
| Muller, Ruth | H.E. | Eugene |
| Munger, Burt | Agri. | Santa Paula |
| Murray, Gladys L. | Sp. | Corvallis |
| Myers, George E. | I.A. | Corvallis |
| Neal, Jesse A. | I.A. | Marion |
| Nolan, Gertrude | P.E. | Corvallis |
| Noon, Mrs. W. A. | Convo. | Corvallis |
| Norris, Mrs. Carrie R. | Com. | Charleston, Ill. |
| Norris, Emma Ruth | H.E. | Sherwood |
| Paine, Mrs. J. H. | P.E. | Corvallis |
| Partello, Col. J. K. | Agri. | Corvallis |
| Partello, Mrs. J. K. | P.E. | Corvallis |
| Patchin, Nellie | H.E. | Salem |
| Peck, Nella B. | P.E. | Corvallis |
| Perry, C. B. | I.A. | Great Falls, Mont. |
| Pickard, Archie N. | I.A. | Corvallis |
| Pope, Harry | Coll. | Corvallis |
| Powell, Minerva | Sp. | Portland |
| Puranton, Gertrude L. | H.E. | Everett, Wash. |
| Purdy, Wm. Nelson | P.E. | Corvallis |
| Rands, Clarence R. | Coll. | Corvallis |
| Rands, Wm. John | Coll. | Corvallis |
| Rawlings, Ella Bertha | Ch. | Corvallis |
| Rees, Elsie Fern | H.E. | Ontario |
| Ressler, Mrs. May Babbitt | P.E. | Corvallis |
| Ridgeway, William | Sp. | Dallas |
| Rife, Wilbur E. | I.A. | Portland |
| Robertson, Etta | P.E. | Corvallis |
| Roberts, Flavins Wardner | I.A. | Goble |
| Robinson, Mrs. L. E. | P.E. | Corvallis |
| Ross, Blanche | H.E. | Portland |
| Sandon, Helen | H.E. | Corvallis |
| Santee, Joseph F. | I.A. | Banks |
| Scea, Helen Lenore | H.E. | Milton |
| Schoth, Albert J. | Sp. | Oregon City |
| Schneider, Nicholas | I.A. | Portland |
| Scott, Jennie | P.E. | Corvallis |
| Scott, Mary R. | P.E. | Corvallis |
| Scudder, Mrs. H. D. | Convo. | Corvallis |
| Seeley, Hazel | Sp. | Independence |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|---------------------------------|---------------|---------------------|
| Shelley, Marjorie | H.E. | Everett, Wash. |
| Sherfy, Vesta | H.E. | Lebanon |
| Simpson, E. T. | Convo. | Corvallis |
| Simpson, Mrs. E. T. | Convo. | Corvallis |
| Sims, Cecile | Sp. | Corvallis |
| Sims, Lona | Sp. | Corvallis |
| Skov, Moren Julia | Sp. | Ferndale, Cal. |
| Slayton, Mabel Adeline | H.E. | Prineville |
| Smith, Anna L. | P.E. | Corvallis |
| Smith, Grace | H.E. | Portland |
| Smith, Mabel H. | Sp. | Payette, Idaho |
| Smith, John W. L. | Agri. | Salem |
| Snell, Margaret | | |
| Snyder, Mrs. R. B. | P.E. | Corvallis |
| Sorem, Sigrid | P.E. | Springbrook, N. D. |
| Spiess, Adolph | I.A. | Canby |
| Spoerry, Barbara | P.E. | Corvallis |
| Spoerry, G. W. | I.A. | Corvallis |
| Spoerry, Mrs. G. W. | P.E. | Corvallis |
| Staiger, Guy A. | Sp. | Corvallis |
| Stiles, Jennie | P.E. | Corvallis |
| Stimson, Etta Lorene | Sp. | Corvallis |
| Stover, Dorothy | Coll. | Corvallis |
| Straub, Samuel | Coll. | Corvallis |
| Strong, Mrs. Henri | Convo. | Corvallis |
| Strong, Mrs. R. K. | Convo. | Corvallis |
| Sturm, Delia Opal | Coll. | Lebanon |
| Stutz, Lelia B. | H.E. | Corvallis |
| Sullivan, Francis | Com. | Gervais |
| Sullivan, Mary Virginia | H.E. | The Dalles |
| Sweek, Mrs. E. S. | H.E. | Burns |
| Thompson, Edna May | P.E. | Corvallis |
| Thordarson, Mrs. F. | P.E. | Corvallis |
| Thordarson, Leome | P.E. | Corvallis |
| Thun, Ernest | I.A. | Dundee |
| Tinkham, Catherine | P.E. | Corvallis |
| Townsend, Mrs. Eunice E. | Sp. | Salem |
| Townsend, Mary | Com. | Salem |
| Tucker, J. Clifton | P.E. | Philomath |
| Tucker, Helen | Coll. | Corvallis |
| Turner, Harold W. | I.A. | Eugene |
| Underwood, Albert B. | I.A. | Monett, Mo. |
| Vansyckle, Calla | H.E. | Everett, Wash. |
| Vincent, Hazel | H.E. | Vici, Okla. |
| Walker, Dorothy Irene | Com. | Corvallis |
| Walker, Henrietta | H.E. | Salem |
| Walters, Mrs. Ada E. | Convo. | Corvallis |
| Walters, Harry S. | Agri. | Corvallis |
| Ward, Lillian Alice | H.E. | Portland |
| Wardrip, Glenn Irvin | I.A. | Grants Pass |
| Warren, Almon Alanson | Agri. | Elma, Wash. |
| Waterman, Helen Mae | Coll. | Corvallis |
| Waterman, Mrs. Mabel | H.E. | Corvallis |
| Weniger, Mrs. Lina | Convo. | Corvallis |
| West, Marion | H.E. | Portland |
| Wettengel, E. B. | I.A. | Corvallis |
| Whipple, Hazel W. | P.E. | Corvallis |
| Whittemore, Hopewell Rose | Coll. | Corvallis |
| Whittemore, John Henry | Coll. | Corvallis |
| Whittemore, Mary H. | H.E. | Corvallis |
| Wildig, Sophia | H.E. | Corvallis |
| Wilson, Stella Nora | Com. | Portland |
| Wise, Neva | H.E. | Albany |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|----------------------------------|---------------|---------------------|
| Wood, Le Velle | H.E. | Corvallis |
| Wood, Mrs. W. A. | H.E. | Corvallis |
| Woods, Mrs. T. H. | P.E. | Grand Forks, N. D. |
| Wright, Frances M. | H.E. | Flagstaff, Ariz. |
| Wright, Mildred | P.E. | Salem |
| Wright, Ralph V. | Agri. | Hood River |
| Yates, Irma | Com. | Corvallis |
| Youngstead, Elsie Caroline | H.E. | Astoria |
| Ziefle, Mrs. C. F. | Convo. | Corvallis |

SPECIAL MUSIC STUDENTS

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|-------------------------------|----------------|---------------------|
| Adams, George Harold | Violin | Albany |
| Arbuthnot, Mrs. James | Piano | Corvallis |
| Atwood, Margaret | Piano | Corvallis |
| Bauer, Marion | Piano | Corvallis |
| Bell, Vera Margaret | Piano | Corvallis |
| Bell, Terry | Piano | Corvallis |
| Bridgewater, Mrs. J. E. | Piano | Albany |
| Buchanan, Ruth | Piano | Corvallis |
| Clark, Ella Marie | Piano | Corvallis |
| Clyde, Elizabeth | Violin | Corvallis |
| Coopey, Raymond | Cornet | Corvallis |
| Dearborn, Catherine | Piano | Corvallis |
| Dearborn, Isabel | Piano | Corvallis |
| Dickinson, Cameron | Piano | Portland |
| Doxsee, Betty Bois | Piano | Corvallis |
| Elam, Ivan Le Roy | Violin | Corvallis |
| Eldridge, Delos | Cornet | Independence |
| Felderbaum, Leah | Piano | Corvallis |
| Fisher, Bernice | Piano | Philomath |
| Fisher, Gertrude | Piano | Philomath |
| Frost, Dorothy | Piano | Corvallis |
| Garnjobst, Martha | Voice | Salem |
| Giles, Mary | Voice | Corvallis |
| Gunn, Christian | Voice | Corvallis |
| Hansel, Gladys | Voice | Jefferson |
| Hansen, Helen | Piano | Portland |
| Hargiss, Vera Strickler | Piano | Corvallis |
| Hargiss, Homer Woodson | Voice | Corvallis |
| Holt, Ethel Kessler | Piano | Philomath |
| Howell, Mary Naomi | Voice | Corvallis |
| Humphrey, Helen | Piano | Corvallis |
| Jones, Berchia Evelyn | Voice | Corvallis |
| Kerr, Marion | Violin | Corvallis |
| Kramer, Louis | Piano | Corvallis |
| Lines, Mary Jane | Piano | Albany |
| Livengood, Helen | Piano | Albany |
| McEwen, Annie | Piano | Milton |
| Martin, Foster | Cornet | Corvallis |
| Messer, Lyndell Ruth | Voice | Aberdeen, Wash. |
| Nissen, Clara | Violin | Corvallis |
| Pape, Albert | Violin | Corvallis |
| Parkinson, Elizabeth | Piano | Corvallis |
| Rankin, Gray Sanford | Cornet | Albany |
| Randin, Lena | Harmony | Corvallis |
| Rice, Angie Mary | Piano | Corvallis |
| Read, Ada Ruth | Violin | Corvallis |
| Read, Echo | Violin | Corvallis |
| Roberts, Pearl Munson | Voice | Corvallis |
| Rondeau, Ruth | Organ | Corvallis |
| Sestak, Vanda | Piano | Stayton |
| Shultes, Karel Burtis | Piano | Corvallis |
| Smith, Martha | Piano | Corvallis |
| Swartz, Alice Ethelyn | Organ | Portland |
| Sweeney, Mrs. S. B. | Harmony | Walla Walla, Wash. |
| Towle, Edella | Voice | Gresham |
| Whittemore, Hopewell | Violin | Corvallis |
| Whittemore, John | Clarinet | Corvallis |
| Williams, Thelma Athene | Piano | Forest Grove |
| Woodruff, Virginia | Piano | Corvallis |

BOYS' AND GIRLS' CLUB PRIZE WINNERS

Summer School, 1919

| | |
|------------------------------|---------------|
| Baker, Ivy | Corvallis |
| Bauer, Donald | Molalla |
| Benjamin, Eva | Gervais |
| Blume, Muriel | Albany |
| Blume, Otto L. | Albany |
| Bordwell, Constance | Medford |
| Bonney, Thelma | The Dalles |
| Brinkley, Jas. Nichols | Salem |
| Clark, Ralph | La Grande |
| Cooper, Glenn R. | The Dalles |
| Fuestman, Oliver | Salem |
| Gaffney, Helen | Oregon City |
| Glenger, Marie | Tillamook |
| Glenger, Pauline | Tillamook |
| Glad, Evelyn | Tillamook |
| Hardt, Gertrude | Falls City |
| Harriman, Rose | The Dalles |
| Heisler, Kenneth Glenn | Dufur |
| Hughes, Merlon | Grass Valley |
| Johnson, Dora | The Dalles |
| Johnson, Francis | The Dalles |
| Kirby, Ella | Wasco |
| Klinchan, Gladys | Tillamook |
| Leeper, Helen | Oakland |
| McMillan, Grant | Gresham |
| O'Brien, Josephine | Wapinitia |
| Owens, Vern | Medford |
| Ranne, Ruth | Gresham |
| Rees, Margaret | Shaniko |
| Resch, Theodore | Aurora |
| Roth, Elmer John | Salem |
| Schmidt, Garland | Corvallis |
| Schreiner, Ruby | Klamath Falls |
| Shulmire, Charles | Klamath Falls |
| Sikes, Nathan | Corvallis |
| Smith, Dillow | Tillamook |
| Spain, Maude | Union |
| Tremanye, Celena | Barlow |

SUMMARIES OF ENROLLMENT

MEN AND WOMEN CLASSIFIED AS TO CURRICULUM

(All duplicates excluded)

| Course | Men | Women | Total |
|--|-------|-------|-------|
| Agriculture | 872 | 19 | 891 |
| Home Economics | | 557 | 557 |
| Forestry and Logging Engineering | 89 | | 89 |
| Engineering and Industrial Arts | 809 | | 809 |
| Mining | 89 | 1 | 90 |
| Chemical Engineering | 71 | 2 | 73 |
| Commerce | 370 | 282 | 652 |
| Pharmacy | 122 | 47 | 169 |
| Optional | 19 | 30 | 49 |
| Music | 18 | 41 | 59 |
| Summer Session | 75 | 260 | 335 |
| Short Courses | 840 | 248 | 1,088 |
| Totals | 3,374 | 1,487 | 4,861 |

CLASSIFIED AS TO RESIDENCE

(All duplicates excluded)

States and Territories:

| | |
|----------------------------|-------|
| Oregon | 3,996 |
| Alaska | 5 |
| Arizona | 8 |
| California | 239 |
| Colorado | 4 |
| District of Columbia | 3 |
| Hawaii | 1 |
| Idaho | 105 |
| Illinois | 12 |
| Indiana | 8 |
| Iowa | 10 |
| Kansas | 8 |
| Massachusetts | 5 |
| Michigan | 6 |
| Minnesota | 7 |
| Missouri | 7 |
| Montana | 27 |
| Nebraska | 5 |
| Nevada | 3 |
| New Jersey | 4 |
| New York | 10 |
| North Dakota | 5 |
| Ohio | 3 |

| | | |
|----------------------------|-----|--------------|
| Oklahoma | 3 | |
| Pennsylvania | 2 | |
| Philippine Islands | 16 | |
| South Dakota | 5 | |
| Texas | 14 | |
| Utah | 2 | |
| Vermont | 3 | |
| Virginia | 1 | |
| Washington | 293 | |
| Wisconsin | 2 | |
| Wyoming | 4 | 830 |
| Foreign Countries : | | |
| British Columbia | 1 | |
| Canada | 16 | |
| Denmark | 3 | |
| India | 2 | |
| Germany | 1 | |
| Roumania | 1 | |
| Scotland | 3 | |
| South America | 1 | |
| Netherlands | 1 | |
| China | 1 | |
| New Zealand | 3 | |
| Nova Scotia | 1 | |
| Russia | 1 | 35 |
| Net total | | 4,861 |

COMPARATIVE ENROLLMENT

| | | | |
|---------------|-----|----------------|-------|
| 1888-89 | 97 | 1904-05 | 680 |
| 1889-90 | 151 | 1905-06 | 735 |
| 1890-91 | 201 | 1906-07 | 883 |
| 1891-92 | 208 | 1907-08 | 1,156 |
| 1892-93 | 282 | 1908-09 | 1,352 |
| 1893-94 | 240 | 1909-10 | 1,591 |
| 1894-95 | 261 | 1910-11 | 1,778 |
| 1895-96 | 397 | 1911-12 | 2,868 |
| 1896-97 | 316 | 1912-13 | 2,314 |
| 1897-98 | 336 | 1913-14 | 2,435 |
| 1898-99 | 388 | 1914-15 | 4,176 |
| 1899-00 | 405 | 1915-16 | 3,265 |
| 1900-01 | 436 | 1916-17 | 3,798 |
| 1901-02 | 448 | 1917-18 | 3,453 |
| 1902-03 | 541 | 1918-19 | 4,086 |
| 1903-04 | 530 | 1919-20* | 4,861 |

* Totals to and including May 11, 1920.

The great difference in the total enrollment for the two years, 1910-11 and 1911-12, was due largely to the increase in the number of students registered for the winter short courses in Agriculture. The increase in the number of regular students in the 36-week courses was 24 percent.

The decrease in the number of students in 1912-13 from the year 1911-12 is due to the decrease in the short course registration. The increase in the number of regular students in the 36-week courses was 19 percent.

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With List of Students for 1920-1921



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1921-22

With List of Students for 1920-21



CORVALLIS, OREGON

O. A. C. PRESS
1921

OREGON AGRICULTURAL COLLEGE

The work of the Oregon Agricultural College is organized into three main divisions: Resident Instruction, Experiment Station, and Extension Service.

I.—THE RESIDENT INSTRUCTION DIVISION includes

The School of Agriculture (B.S., M.S. Degrees)

With departments of Animal Husbandry, Dairy Husbandry, Farm Crops, Farm Management, Farm Mechanics, Horticulture (including Pomology, Vegetable Gardening, Landscape Gardening, Floriculture, and Horticultural Products), Poultry Husbandry, Soils, and Veterinary Medicine.

The School of Commerce (B.S. Degree)

With departments of Business Administration, Economics and Sociology, Office Training and Stenography, and Political Science.

The School of Engineering and Mechanic Arts (B.S., C.E., E.E., M.E. Degrees)

With departments of Civil Engineering, Electrical Engineering, Highway Engineering, Industrial Arts, Mechanics and Materials, Mechanical Engineering, and Chemical Engineering.

The School of Forestry (B.S., M.S. Degrees)

With departments of General Forestry and Logging Engineering.

The School of Home Economics (B.S., M.S. Degrees)

With departments of Household Administration, Household Art, Household Science, and Institutional Management.

The School of Mines (B.S. Degree)

With departments of Geology, Metallurgy, and Mining Engineering.

The School of Pharmacy (B.S., Ph.C., Ph.G. Degrees)

The School of Vocational Education (B.S. Degree)

With departments of Agricultural Education, Commercial Education, Education, Home Economics Education, Industrial Education, and Psychology.

The Department of Military Science and Tactics (B.S. Degree)

Including Reserve Officers Training Corps in Infantry, Field Artillery, Engineers, Motor Transport, and Cavalry.

The Service Departments

Including departments of Art and Rural Architecture, Bacteriology, Botany and Plant Pathology, Chemistry, English Language and Literature, Entomology, History, Mathematics, Modern Languages, Physics, Public Speaking and Dramatics, Zoology and Physiology, Industrial Journalism, Library Practice, Physical Education for Men, and Physical Education for Women.

The School of Music (Music Diploma)

With departments of Harmony, Theory, Voice, Piano, Violin, Pipe-organ, and Orchestra.

The Short Sessions

Including the Summer Session and Winter Short Courses.

II.—THE EXPERIMENT STATION DIVISION includes

The Home Station, at Corvallis.

The Eastern Oregon Branch Station, at Union.

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The Hood River Branch Station, at Hood River.

III.—THE EXTENSION SERVICE DIVISION includes

County Agricultural Work.

Home Demonstration Work.

Boys' and Girls' Club Work.

Extension Specialist Work

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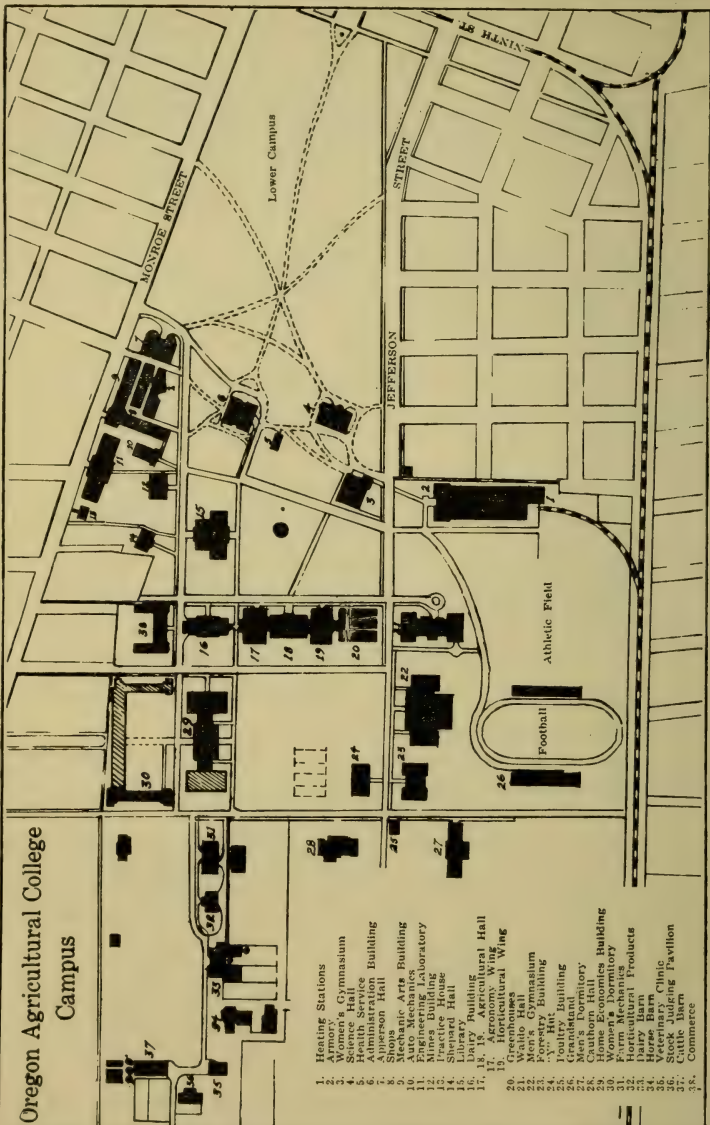
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20. Agronomy Wing
21. Greenhouse
22. Greenhouse
23. Waldo Hall
24. Men's Gymnasium
25. Women's Building
26. Y. M. H. H.
27. Poultry Building
28. Grandstand
29. Cuthorn Hall
30. Home Economics Building
31. Home Economics Laboratory
32. Horticultural Products
33. Dairy Barn
34. Veterinary Clinic
35. Stock Judging Pavilion
36. Cattle Barn
37. Commerce
- 38.

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COLLEGE CALENDAR

1921

| | |
|--|---|
| SEPTEMBER 19, 20, <i>Monday, Tuesday</i> | Registration |
| SEPTEMBER 21, <i>Wednesday</i> | |
| ..... | Recitations begin; required English examination |
| OCTOBER 7, <i>Friday</i> | Meeting of Board of Regents |
| NOVEMBER 24, 25, 26, <i>Thursday, Friday, Saturday</i> | |
| ..... | Thanksgiving recess |
| DECEMBER 17, <i>Saturday</i> | First term ends; Christmas recess begins |

1922

| | |
|--|--|
| JANUARY 2, 3, <i>Monday, Tuesday</i> | |
| ..... | Second term registration; Winter Short Courses begin |
| JANUARY 4, <i>Wednesday</i> | |
| ..... | Recitations begin; meeting of Board of Regents |
| JANUARY 28, <i>Saturday</i> | Winter Short Courses end |
| FEBRUARY 22, <i>Wednesday</i> | Washington's birthday; holiday |
| MARCH 18, <i>Saturday</i> | Second term ends; spring vacation begins |
| MARCH 27, 28, <i>Monday, Tuesday</i> | Third term registration |
| MARCH 29, <i>Wednesday</i> | Recitations begin |
| APRIL 5, <i>Wednesday</i> | Meeting of Board of Regents |
| MAY —, | Military Inspection Day |
| MAY 30, <i>Tuesday</i> | Decoration Day; holiday |
| JUNE 3, <i>Saturday</i> | Last day of recitations for third term |
| JUNE 5-10, <i>Monday to Saturday</i> | Final examinations |
| JUNE 10, <i>Saturday</i> | Senior Class Day; Alumni Reunion |
| JUNE 11, <i>Sunday</i> | Baccalaureate Sermon |
| JUNE 12, <i>Monday</i> | Fifty-third Annual Commencement |
| JUNE 12-17, <i>Monday noon to Saturday</i> | Farmers' Week |
| JUNE 19, <i>Monday</i> | Summer Session begins |
| JULY 29, <i>Saturday</i> | Summer Session ends |

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| Oregon Agricultural College, B.S. | |
| EDGAR THOMAS..... | Klamath County |
| Kansas State Normal School; Colorado Agricultural College, B.S. | |
| WILLIAM BENJAMIN TUCKER..... | Crook County |
| Lewiston (Idaho) Normal School; University of Illinois. | |

COUNTY HOME DEMONSTRATION AGENTS

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| JESSIE AIKEN GRISWOLD | Josephine County |
| Milwaukee-Downer College; Columbia University. | |
| NORMA BICK OLSON..... | Benton County |
| Hiram College; Oregon Agricultural College, B.S. | |
| FLORENCE ELDORA POO' | Jackson County |
| Montana State College, B.S. | |
| EDITH GREGORY VAN DEUSEN | Umatilla County |
| University of Chicago, Ph.B. | |

COUNTY CLUB LEADERS

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| ELIZABETH BURR..... | Tillamook County |
| Northwestern University, Ph.B. | |
| ETHEL IRENE CALKINS..... | Multnomah County |
| Oregon Normal School. | |
| THOMAS DEFOREST KIRKPATRICK..... | City of Portland |
| Drake University, B.S.; Simpson College; Iowa State College. | |
| FRANK WILLIAM SEXTON..... | Klamath County |
| Valparaiso (Indiana) Normal School. | |
| ROMNEY PEARLE SNEDEKER..... | Clackamas County |
| ANDREW ERVIN STREET..... | Douglas County |
| University of Oregon. | |
| HARRY WELLMAN..... | Malheur County |
| Oregon Agricultural College. | |
| FRED NELSON WILLIAMSON | Linn County |
| Oregon Agricultural College, B.S. | |

General Catalogue, 1921-22

GENERAL INFORMATION

FOUNDATION AND ENDOWMENT

By an Act of Congress, approved by President Lincoln, July 2, 1862, a grant of land to the amount of thirty thousand acres, or its equivalent, was made to each state in the Union for each senator and representative in Congress to which the state was entitled by the apportionment of the census of 1860. The proceeds under this Act were to constitute a perpetual fund. The principal of this fund was to remain forever undiminished; but the interest arising from the fund was to be inviolably applied by each state that should avail itself of the benefits of the Act to the support and maintenance of a "college where the leading objects shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the states may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life." Ninety thousand acres of land were apportioned to Oregon; and by an Act approved October 9, 1862, the Legislative Assembly of Oregon accepted the provisions of the Congressional law.

HISTORY

The legislature of 1868 provided for the location of the land received under the Act of 1862, and as there were no state colleges in Oregon at that time designated Corvallis College, a private institution in Benton county under the control of the Methodist Episcopal Church, South, as the recipient of the interest on funds to be derived from the sale of this Government land. For a number of years, however, none of the land was sold, and the legislature made small annual appropriations for the support of the institution.

In 1885, the church voluntarily relinquished its claim on the funds of the College, and the State assumed entire control of the institution. The legislature of that year provided for the "permanent location of the State Agricultural College at Corvallis, in Benton county," on the condition that the citizens of said county should, within four years, erect on the "farm containing thirty-five acres in the immediate vicinity of said city, known as the Agricultural College Farm, brick buildings for the accommodation of said State Agricultural College, at a cost of not less than \$20,000." During the summer of

1887, the cornerstone of the building erected by the citizens of Benton county was laid by the Governor of Oregon amid impressive ceremonies.

This structure, now known as the Administration Building, was the nucleus around which other buildings soon began to cluster, as necessity and growing interest demanded. For a year or two there was ample room; but, as the institution grew, more land was needed and provided, and the institution now owns, as compared with the thirty-five acres originally comprising the campus and grounds, three hundred forty-nine acres; and as compared with one structure, thirty-nine. There has also been a marked increase in the attendance, from ninety-seven to approximately five thousand students. Thirty years ago, most of the students came from Benton and neighboring counties. Today, every county in Oregon, thirty-eight other states, and fifteen foreign countries are represented. The increase in the number of students called for an increase in the number of the faculty. This body, from the number of five in 1884, has grown until it now numbers about two hundred fifty. Other features usually found in connection with progressive educational institutions have grown in equal ratio. The curricula have been strengthened, the standards, both for entrance and graduation, have been advanced, organization has kept pace with development, and other improvements have been made from time to time, which have added to the thoroughness and efficiency of the work.

ORGANIZATION

The Oregon Agricultural College is organized into the three grand divisions that characterize the work of the land-grant colleges throughout the country; namely, Resident Instruction, Experiment Station, and Extension Service. Resident Instruction, which includes all work of teaching students at the institution, is the most distinctive feature of the College life. It has always been regarded as of first importance, and will doubtless continue to be so regarded, in spite of the increasing usefulness of extension work. The Experiment Station, through systematic experiments, investigation, and research, is engaged in a search for fundamental truth. Its work is of great importance; for without it, the work of the other two grand divisions would soon become sterile and ineffective. The Extension Service, which is the newest of the three grand divisions of the College, includes all means of imparting the message of the College to the people in their own communities. It is virtually an effort to make practical and more or less immediate application throughout the State of the available truths worked out by the Experiment Station or used for resident instruction.

GOVERNMENT

The general government of the College is vested primarily in the Board of Regents, and, under their control, in four other administrative bodies—the Administrative Council, the College Council, the Faculty, and the staffs of the Experiment Station and Extension Service. These bodies, in the exercise of their respective duties, determine the question of policy and regulate all matters relating to the interests of the institution.

The Board of Regents consists of thirteen members, of whom the Governor, the Secretary of State, the Superintendent of Public Instruction, and the Master of the State Grange, are ex-officio members. The nine other members are appointed by the Governor with the approval of the State senate, and hold office for a term of nine years. Under a law of the State legislature, passed in 1885, the Board of Regents constitutes a body corporate, under the name of "The Board of Regents of the State Agricultural College, * * * with power to sue and be sued, and to make contracts," and to enact such regulations as may be necessary for the maintenance and development of the College.

The Administrative Council consists of the President of the College, the Director of the Experiment Station, the Director of the Extension Service, and the deans. The function of this Council is to consider and determine the larger questions of policy and administration.

The College Council is composed of the President of the College and all officers of administration and instruction with the rank of professor, associate professor, or assistant professor. This body considers all general questions relating to the educational work and policy of the College; arranges and correlates the courses of study, and determines the requirements for admission and graduation. The different committees of the College Council, representing the several schools of instruction, have charge of the enrollment and progress of students in the respective schools, and investigate the records of all candidates for graduation.

The College Faculty comprises members of the Administrative Council and the College Council and all other instructors, including members of the Experiment Station and Extension Service staffs. It considers routine questions of method and discipline, a function for which it is particularly well adapted, being in close contact with all that pertains to student interests and student life.

The Experiment Station Staff includes the President of the College, the Director of the Experiment Station, the Secretary of

the Experiment Station, the heads of the various departments of the School of Agriculture, and all assistants engaged in research and experimental work. The members of this staff are engaged in the investigation of problems encountered in the development of the agricultural interests of the State. They also distribute, by correspondence, circulars, and station bulletins, information regarding their investigations.

The Extension Service Staff includes the President of the College, the Director of the Extension Service, the Secretary of the Extension Service, the State Leader of County Agents, the county agents, the officers in charge of Boys' and Girls' Club Work, extension field specialists in Horticulture, Dairy and Animal Husbandry, Agronomy, Poultry Husbandry, Organization and Markets, Highway Engineering, Home Economics, Farm Management Demonstrations, and members of the Resident Instruction Staff and Experiment Station Staff who assist in extension work.

Dean of Women. The position of the Dean of Women is administrative, supervisory, and advisory. It is the duty and privilege of the Dean of Women to know each young woman so well that she may be of the greatest possible help and inspiration to her as adviser, counselor, and friend. The position covers the problems of living and social conditions, student employment, vocational guidance, and all problems which touch the young women's lives while they are in college.

The Student Affairs Committee, composed of students and members of the faculty, is designed to look after those interests of the students which are not strictly academic in character. It assists students in working out their social problems. It helps to maintain a wholesome relationship between clubs and fraternities and the College. It is prepared to assist student organizations in all their financial dealings. In short, the committee strives to bring about those conditions which will make the student's college life of the greatest profit to him.

Adviser for Freshman Class. In order that freshman students may become acquainted early in their college life with student-body regulations and traditions and with college ideals, and that they may be more quickly welded into an effective class organization, a member of the faculty has been appointed Adviser for the Freshman Class. He advises them in the selection of special studies and in such other ways as may be of assistance to them.

The Students. The College does not undertake to prescribe in detail either its requirements or prohibitions. Students are met

on a plane of mutual regard and helpfulness. Since the advantages of the institution are provided at public expense, the students are under special obligation to perform faithfully all their duties, not only to the College, but also to the community and to the State. Whenever the deportment of any student is such that his influence is inimical to the interests of the institution, he will be relieved from further attendance.

PURPOSE AND SCOPE

The purpose of the College is to provide, in accordance with the acts of Congress under which it is maintained, a liberal, thorough, and practical education—an education that will afford the training required for efficient service both in different branches of industry and in civic duties. The distinctive technical work covers the three great fields of production, manufacture, and commerce. Special attention is given to the application of science. All the practical work in the laboratories, in the shops, in the orchards, and on the farm, is based on scientific principles. While the industrial or technical work is emphasized, the importance of a thorough general training, of mind development, and of culture, is recognized in all the work of the institution. The object is to meet the demand for a broad and general education, supplemented by special technical training. State and Federal support impose upon the College the obligation of giving training for true citizenship.

The work, therefore, covers a broad field, including technical courses in the different phases of agriculture, forestry, home economics, engineering, mining, commerce, pharmacy, vocational education, and industrial arts; with the necessary training in the basic subjects of mathematics and the natural and physical sciences; and also the general training in language, literature, history, economics, political science, civics, military tactics, and physical education, which constitutes an essential part of a liberal education.

LOCATION

The seat of the Oregon Agricultural College is Corvallis, a city of 6,500 inhabitants, situated at the head of navigation on the Willamette River. As the name implies, it is in the heart of the Willamette Valley, famous for its varied and abundant resources.

It is readily accessible by steam and electric railway from all parts of the State, the main-line Southern Pacific steam trains all connecting with Corvallis, and both the "West-side" Electric and the Oregon Electric trains running into the city. In addition to

these north-and-south railways, an east-and-west railway running through the city connects the College with the Cascade Mountains on the east and the ocean, at Newport, on the west. Corvallis has free mail delivery, excellent paved streets, good schools, many churches, attractive residences, a modern sewer system, and a first-class gravity water system supplied from the springs on the slopes of Mary's Peak, the tallest mountain in the Coast Range, sixteen miles to the west.

Situated on high, well-drained land, open to the invigorating sea breeze, Corvallis is one of the most healthful cities in Oregon. The climate is remarkably equable, and severe storms are almost unknown, summer or winter. The average annual temperature for 28 years (1890-1918) is 55.01 degrees Fahrenheit, and the average annual rainfall for the same period is 42.76 inches. The lowest temperatures for the five years 1914 to 1918 were respectively 13, 21, 8, 14, and 19 degrees Fahrenheit in December and January; and the highest temperatures for the same years, in July and August, were respectively, 100, 97, 99, 103, and 99 degrees Fahrenheit.

The glens and gorges of the Coast Range, beginning only a few miles west of Corvallis, the distant splendor of the Cascades, sixty miles to the eastward, with their wealth of trees and the perennially snow-capped peaks—Hood, Jefferson, and the Three Sisters—present a constant panorama of picturesque mountain scenery. With such an environment, Corvallis is an ideal location for a college and a home.

GROUND AND BUILDINGS

THE COLLEGE GROUNDS

The college grounds comprise three hundred forty-nine acres. That part of the grounds, ninety-one acres in extent, lying immediately about the several buildings, east of Cauthorn Avenue, and usually designated as the lawns and campus, is tastefully planted with both native, exotic, and ornamental trees, shrubs, and herbs. The one hundred forty-three acres used for the farm, garden, and orchard operations are so plotted and planted as to meet the demands of the various lines of work and still conform to a general scheme of landscape embellishment. This portion occupies a slightly elevated and gently undulating site wholly within the western limits of the city of Corvallis. Broad drives and walks traverse the campus in all directions, thus rendering every objective point easily accessible.

In addition to the above plot, one hundred fifteen acres, comprising the College south farm, including the horticultural and poultry tracts, lies just south of the city limits. Approximately five hundred acres are also under lease for farm purposes.

COLLEGE BUILDINGS

The following brief descriptions will convey a general idea of the principal buildings and the purposes for which they are used.

The Administration Building is a three-story brick structure, 90 by 120 feet, containing recitation rooms of the English department, the offices of the President, the Registrar, the Business Manager, the department of Industrial Journalism, the Barometer, and the Director of the School of Music. Centrally located and on a slight eminence, it commands an unsurpassed view of the campus, the city of Corvallis, and the picturesque Cascades.

Science Hall, situated southeast of the Administration Building, and constructed of gray granite and sandstone, covers a ground space of 85 by 125 feet, has three stories and basement, and contains fifty-five rooms. It is one of the most serviceable buildings on the grounds, and within it are housed the departments of Chemistry and Pharmacy, with their various laboratories, recitation rooms, and lecture halls, together with the offices and laboratories of the Experiment Station chemists.

Agricultural Hall, standing southwest of the Administration Building, is the largest structure on the campus. It is an imposing edifice of brick and sandstone, consisting of the central or administrative section, the north or Agronomy wing, and the south or Horticultural wing.

The central section is 66 by 140 feet, four stories and basement, and contains conveniently arranged and well lighted classrooms, laboratories, and offices. On the first floor are the offices of the Director of the Experiment Station, the Dean of the School of Agriculture, the Director of the Extension Service, the State Leader of County Agriculturists, the State Leader of Industrial Clubs, with their several branches, and the Clerical Exchange. The second floor is occupied by the department of Animal Husbandry and the School of Commerce; the third floor, by the departments of Zoology and Entomology with their respective museums; and the fourth floor, by the departments of Bacteriology and Art.

The north or Agronomy wing is 72 by 130 feet, three stories high. It is thoroughly modern in all its equipment, and while intended solely for the work in Agronomy, at present accommodates also, temporarily, the School of Commerce. The first and second floors, occupied by the departments of Soils, Farm Management, Farm Crops, and Drainage and Irrigation, contain, in addition to the offices of these departments, rooms variously devoted to laboratory and class purposes. All of the third floor and office rooms on the second floor are used by the School of Commerce.

The south or Horticultural wing is 72 by 130 feet, three stories high. In the basement are located laboratories for plant propagation, spraying, vegetable preparation, and fruit packing. The basement also contains the general storage rooms for the department, and rooms which are especially adapted for the storage of fruits. The first floor contains the offices of the department of Horticulture, the research laboratory, systematic pomology laboratory, and three large lecture rooms. The second floor contains the offices and museums of the department of Botany and Plant Pathology, recitation rooms and student laboratories. The third floor contains the horticultural museum and horticultural herbarium, photograph room, large student lecture room, drafting rooms, lecture rooms, and office of the Landscape Gardening section. These rooms are all especially well lighted and contain modern conveniences for conducting the work with efficiency.

The Library Building. The new Library Building is located south of the Mines Building. It consists of two stories and basement in front and three stories and basement at the back. It is built of red brick and gray terra cotta, presenting a quiet and dignified appearance, in keeping with the use, fundamental to education, to which it is put. The most modern and effective system of lighting, heating, and ventilating is installed.

The first floor consists of an entrance hall, the technical periodical room, two auditoriums for the use of one-credit and other classes too large to be accommodated by the classroom of ordinary size, and two large classrooms. On this floor are the coatrooms for the use of students. The second and third floors at the front are occupied by the main reading room, ample to seat over three hundred for reference work. Back of this room on the second floor are the offices, cataloguing, and other workrooms. The third floor consists of comparatively small rooms designed ultimately for seminar rooms for the use of such departments as will make the library their chief laboratory; however, under present crowded conditions on the campus, this story is used for offices of the Dean of Women, the Dean of the Service Departments, the department of Public Speaking and Dramatics, and the Editor of Publications.

The northwest part of the Library contains the fireproof steel stack room, which houses in safety the formerly scattered collection of valuable books, and permits their easier and more effective use.

The building is ample to accommodate the growth of the library for many years and its architecture permits stack expansion as time and growth demand it.

Greenhouses. A range of greenhouses aids the student in his studies in commercial greenhouse work. The range is made up of

five even-span houses, three ninety feet long by twenty feet wide, and two thirty-three feet long by twenty feet wide, making the total area under glass 6,720 square feet. Each of the large houses has been divided into sections thirty feet long, so that the entire space in each may be devoted to a single crop. Of the two smaller houses, one is given up to research work, and one to general plant propagation. Such crops as carnations, chrysanthemums, violets, palms, ferns, general pot plants, and forced vegetables, like tomatoes, lettuce, and cucumbers, are grown in these houses.

Dairy Building. Just north of Agricultural Hall is located the Dairy Building. The general scheme of both outside and inside finish is similar to that of Agricultural Hall. The structure is 54 by 141 feet, three stories high. On the first floor are the offices of the Dairy department and laboratories for buttermaking, cheesemaking, and market milk instruction, including a boiler and engine room and student lockers. On the second floor are the testing laboratory, advanced laboratory, veterinary laboratories, etc. The third floor is temporarily occupied by the department of Mathematics with the exception of a general lecture room, extending across the south end of this floor, and having a seating capacity of two hundred.

The Forestry Building. The three-story Forestry Building, 80 by 136 feet, constructed of brick, houses the work in forestry and logging engineering. This building contains roomy laboratories for work in silviculture, dendrology, mensuration, forest protection, technology, drafting, and logging engineering. As rapidly as material can be assembled these laboratories are being supplied with the various instruments and equipment which the peculiar work of each requires. In addition to the laboratories, space is to be devoted to a collection of manufactured wood products, designed to show the various uses to which wood may be put and to a forest museum in which will be assembled large specimens of all commercial woods of the United States. All available publications dealing with forestry and logging subjects are provided for the use of students. Portions of the building are used temporarily by the School of Vocational Education, by the department of English, and the department of Poultry Husbandry.

Home Economics. The Home Economics Building now lacks only the west wing to complete the original plan of a central unit, two connecting links, and two wings. As it now stands the building measures about 215 feet in length and 120 feet in total width. It is located directly west of the Dairy Building and east of the Farm Mechanics Building, facing the Men's Gymnasium and the Forestry

Building, across the West Quadrangle to the south. It consists of three stories above a high basement, and is built of brick and terra cotta. Heating, lighting, and ventilating systems of the most modern type are installed, and every provision—including an electric elevator, rest room, reading room, lockers, and dressing room—is made for the comfort and convenience of the young women pursuing work in Home Economics.

Large laboratories and lecture rooms for food preparation and for household arts are now amply provided in this building for the accommodation of all students. Adequate office room is also available for members of the Home Economics staff, and special laboratories are devoted to weaving and dyeing, laundry, etc. A feature of the building that affords opportunity for practical instruction in dietetics and institutional management is the large dining-room on the third floor of the central unit, capable of seating 300 people, and the kitchens, with modern equipment, where food is prepared for this dining-room. Another feature of practical value to all students is the group room arrangement showing two types of effective equipment for a home in accordance with a low or moderate family income, the object of each being to illustrate a kitchen, dining-room, and living-room proportioned, arranged, and equipped with the least outlay for the largest degree of genuine comfort, convenience, and charm.

The Mines Building, 65 by 81 feet in dimensions, which is located about one hundred yards northwest of the Administration Building, is one of the newer structures. It is a fine four-story structure, constructed of brick, trimmed with stone, and similar in type to Agricultural Hall. The first floor of the building contains the main offices, assaying, metallurgical, and ore-dressing laboratories. The basement contains the crushing and sampling rooms, and the stock rooms. On the second floor are the Bureau of Mines laboratory and lecture and class rooms. On the third floor are the geological museum, the mineralogical and petrological laboratories, and drafting room. All the laboratories are provided with water, gas, electric lights, and steam heat.

Apperson Hall, situated about one hundred fifty yards northeast of the Administration Building, is 90 by 120 feet in size, three stories high, constructed of Oregon gray granite, sandstone, and terra cotta. With the addition of the third story during the summer of 1920 and complete remodeling of the interior the structure is virtually a new building. The first floor contains offices, laboratories, and classrooms for the departments of Electrical Engineering and Light and Power. The second floor contains offices of the

departments of Physics, Highway Engineering, and Electrical Engineering, and various classrooms and laboratories. The third floor contains offices for Irrigation Engineering, Civil Engineering, and Railroad Engineering, four drawing rooms, and five class and lecture rooms.

Mechanic Arts Building is a modern, well-lighted structure of brick, with cement foundations, 52 by 52 feet, two stories high, flanked by a one-story wing on the east, 40 by 220 feet, and a similar wing on the south, 40 by 200 feet. The central portion contains the office of the Dean of the School of Engineering, a display room for student work, a tool-room for the machine shop, and a finishing room for the wood shop. On the second floor is a general drafting room, 30 by 50 feet, with a blue-print room and a dark room adjoining. The south wing contains the main woodworking shop, 40 by 97 feet, a stock room 30 by 40 feet, a carpenter shop 20 by 40 feet, and the O. A. C. Press, 40 by 50 feet. The east wing contains the machine shop, 40 by 80 feet, the blacksmith shop, 40 by 100 feet, store room for coal and iron, lockers, and toilet rooms.

The Foundry, which is located immediately south of the blacksmith shop, is built of brick. It contains one 22-inch Colliau cupola for melting iron, one brass furnace, one portable core oven, one stationary core oven for larger work, one twelve-hundred-pound crane ladle, one eight-hundred-pound crane ladle, and several smaller ladles. It contains also one crucible brass furnace, one two-ton jib crane, one post crane, one No. 2 Delano pulley molding machine, one tumbling barrel for cleaning castings, and a liberal supply of smaller tools, flasks, etc.

New Engineering Laboratory. The new Engineering Laboratory, recently completed, is a brick and concrete building 220 by 63 feet, three stories high. It is located on Monroe Street, directly north of the Mines Building and adjacent to the Mechanic Arts Building.

The main laboratory is 220 by 40 feet and includes three principal divisions: (a) a materials laboratory occupying about one-third of the building at the east end; (b) a hydraulics laboratory occupying the middle third; (c) a steam and gas engine laboratory occupying the west end of the building. Each of these divisions has floor space on the basement, main floor, and mezzanine or gallery floor. All are served by a five-ton electric traveling crane. The south part of the building contains offices, recitation rooms, drafting rooms, and special laboratories. The latter include highway materials laboratory, fuel and oil testing laboratory, metallography laboratory, and automotive laboratory. A 100-horse-

power water tube boiler is located in the basement to furnish heat for the building and steam for experimental use in the laboratory.

The Women's Gymnasium is situated about two hundred yards south of the Administration Building, and is erected against a gently sloping bank on Jefferson Street. The structure, 70 by 120 feet, is built of stone and wood, and comprises a basement, or first floor, facing east, with the main floor above it, having a bank entrance on the west end. The first floor of the building is devoted to locker rooms, dressing rooms, bathrooms, and offices, together with a rest room and a special room for corrective gymnastics. The second floor consists chiefly of one large gymnasium room, which is also frequently used as a lecture hall, assembly room, and social center for moderate-sized gatherings. This room is surmounted by a balcony running track, suspended from the trusses. The room affords facilities, in a court 79 by 54 feet in dimensions, for basketball, indoor baseball, tennis, and various winter and indoor games.

The Men's Gymnasium, situated on Jefferson Street and adjoining the main athletic field, is now practically complete. The central unit, 90 by 150 feet in size, provides a main hall with 13,500 square feet of floor space for three regulation basket-ball courts and space for general gymnasium and indoor athletic work. This hall is occasionally used as an auditorium for large assemblies and entertainments. The men's lockers, dressing-rooms, the showers, the departmental offices, and a large lobby for receptions, are also located in the central unit. The east wing, 52 by 96 feet in dimensions, provides an auxiliary gymnasium for apparatus work, three handball courts, two wrestling and boxing rooms, and one large room for volley-ball. The new west wing, 52 by 96 feet, provides an additional boxing and wrestling room, bowling alleys, handball and squash courts. The fourth unit provides a natatorium 50 by 100 feet in size, of white tile construction, lighted at the bottom with special electric lights, and equipped with the most modern diving boards, and with a refiltration and violet-ray system which keeps the water sterile. The pool, which is one of the largest and finest in this part of the country, is surrounded by a gallery capable of seating fifteen hundred spectators.

The Armory is situated about three hundred yards south of the Administration Building. It is one of the largest of its kind in the United States and is built of concrete and steel, 126 by 355 feet. The drill hall portion has an unobstructed area of 36,000 square feet. The arms room, offices, and drill hall afford facilities for the accommodation of 1,000 men.

The South Heating Plant, located at the south end of the Armory, is a one-story, reinforced concrete building, with a concrete tunnel and conduits leading to the various buildings on the south side of the campus. It contains three boilers, one two-hundred-ninety, one two-hundred-fifty, and one one-hundred-fifty-five horse-power, with the necessary equipment for heating the buildings connected with it.

The North Heating Plant, a one-story brick building in the rear of Apperson Hall, contains the requisite equipment for supplying various buildings with heat, light, and power.

Waldo Hall, one of the halls of residence for women, occupies a commanding site one hundred fifty yards west of the Armory. It is a large building of striking appearance, with a cement foundation and basement wall, and a cream-colored, pressed-brick superstructure, three stories high. The dimensions are 96 by 240 feet; and it contains one hundred twenty-five rooms for students, besides a kitchen, dining-rooms, and parlors. It is modern in its appointments and finished throughout in natural grain Douglas fir, stained to conform to the color scheme.

Cauthorn Hall, another of the women's halls of residence, is a well-proportioned frame building, situated on a commanding spot in the western part of the campus. It is 160 by 50 feet, has three stories and basement, and contains sixty-two rooms, besides a large kitchen, dining-room, and reception rooms. Its furnishings and appointments are adequate, modern, and in harmony with its use. Each floor is supplied with hot and cold water, baths, electric light, and steam heat.

New Hall of Residence for Women. A new hall of residence for women, opened in the spring of 1921, occupies a position along the west side of the area to the north of the Home Economics Building, formerly used as a women's athletic field. The building is 235 feet long by 96 feet wide, built of brick and terra cotta, three stories high above a basement. On the first floor are located the reception rooms and the dining-room and kitchens, together with a few student rooms. The laundry and freight room are located in the basement, which is connected by an elevator with a trunk-storage room on each floor. One hundred twenty-eight rooms, most of them designed to accommodate two students, are equipped with individual closets, running water, steam heat, and electric lights. Compartment bathrooms, with showers in addition, a hair-dressing room, and a clothes-pressing room, are provided on each floor, all with thoroughly modern and sanitary equipment. The stairways are easy and convenient. On the third floor a hospital room, with three beds, is

equipped with separate kitchen and bathroom, and connected with the main kitchens by a dumb waiter. Throughout the building every facility is provided in keeping with good management, health, and home comfort.

Men's Dormitory. This building, fitted up in the fall of 1919 as a campus residence for men students, is 204 by 57 feet in size, located near the Men's Gymnasium and the "Y" Hut. While the building was erected during the war as a barracks, it was designed to be a permanent structure on the campus and was built with a view to being veneered with brick. It is built on a decided slope, with basement and three floors. The basement, with cement floor, accommodates a large cafeteria. The first floor contains a spacious living-room at the east end, and a number of student rooms at the west end. The two upper floors are given up entirely to student rooms. Lavatory, toilet and shower-bath facilities are provided on each floor, and laundry facilities in the basement. Student rooms are finished in wood, well lighted, and conveniently arranged. Steam heat and electric lights are provided throughout the building. Rooms are arranged to accommodate from two to four students; and furnishings, such as closet space, tables, chairs, iron bedsteads, etc., are provided on this basis.

Shepard Hall, the student building now under the auspices of the Y. W. C. A., was completed at a cost of something over \$22,000. The building is a tribute to the memory of Clay Shepard, who gave his life to the cause of cleaner, higher, and truer citizenship as exemplified in student life. The basement contains a swimming pool, shower-baths and locker rooms, kitchen, wood room, and accessories. The first floor contains a large lobby which is used for social events and as a general gathering center for women, the offices of the General Secretary, a public office, and a combined cabinet and check room.

The "Y" Hut. The "Y" Hut is 60 by 110 feet in size, consisting of one main floor with balconies. The auditorium has a stage, moving picture equipment, large fireplace, and writing and game tables. Smaller rooms adjoining are used for many purposes, such as committee meetings, billiards, the Secretary's office, and library. Opening from the balconies are the offices of the Graduate Manager, Junior Annual, Greater O. A. C. Association, and the Student Body Assembly.

Horticultural Products Building. The building is of brick, 72 by 46 feet in dimensions, with full basement and two additional floors. The inside walls are of brick with enamel coating, and the floors are waterproof, so that the entire building can be flushed out. The building is provided with steam, hot and cold water, and electricity for both lighting and power. The equipment includes an elevator. On

the first floor is a large evaporation room with a tunnel prune drier consisting of three tunnels twenty-two feet long. Here also is a kiln drier to be used especially for such fruits as apples. Adjoining the evaporation room is a receiving room, which can be utilized for processing, or for jam and jelly making. This floor also contains an evaporation room for the manufacture of juice, vinegar, and similar products. On the second floor is a canning room seventy-two feet long, equipped for the canning of fruits and vegetables; a room for experimenting with special fruit products, such as glacé fruits, maraschinos, etc. There is a laboratory for young women in Household Science, where they will work out the food value of various horticultural products. In the basement are excellent storage facilities for canned goods, vinegars, and other products.

The Stock Judging Pavilion. The Animal Husbandry work of the College is greatly facilitated by a judging pavilion, which provides very comfortable and commodious quarters for all of the demonstration work with livestock. The main room is 40 by 90 feet, well lighted and heated. A movable partition is provided whereby this large room may be divided into two smaller ones, each large enough for all ordinary purposes.

The Veterinary Building, a frame structure 56 by 65½ feet, is used for both instructional and Experiment Station work. The front part of the building consists of two rooms, lighted by skylights and large windows. One of the rooms is a small amphitheater, with a seating capacity of about one hundred twenty. This is used very largely for clinic. The arena is sufficiently large for casting animals for surgical work. The opposite room is used for dissection and for holding autopsies. It is equipped with an overhead track for suspending carcasses, and is large enough to accommodate five dissection subjects at one time. The back part of the building is divided into two stories. The first floor consists of a dressing room, toilet, and shower-bath room, drug and instrument room, and stalls. There are three box stalls, two of which can be thrown together for use as a maternity stall. There are three tie stalls. The stalls are used for both clinical and experimental animals. The second floor has space for storing feed, and for housing guinea pigs and rabbits. There are two exercising paddocks just behind the building. The paddock fences have a baseboard which extends about three inches below the surface of the ground. The fences are doubled, with the necessary space between them to render the paddocks safe as quarantine pens.

Farm Mechanics Building. A modern building is provided for the Farm Mechanics work. It is a well-lighted brick building, hav-

ing a large operating floor, a classroom, a locker room, shop, and tool-room on the first floor. The operating floor is of cement and is roomy enough for demonstration and for the operation of the heavier farm machines. Within this place is reserved space for the very heavy farm tractors. A gallery surrounding the operating floor provides space for the lighter farm implements such as tillage, haying, and harvesting machines. The building is equipped with shafting, belting, and power for operating and testing various machines, and a large well is provided for making pump tests. A complete equipment of the most up-to-date farm machinery is loaned the institution by the leading implement dealers of the Northwest; so that the student has constantly before him and is working with and studying the best classes of farm machinery of all types. A new machine shed 52 by 56 feet, with concrete floor, is now located directly south of Farm Mechanics Building.

FARM BUILDINGS

The College Farm is now well equipped with farm buildings and modern facilities for conducting practical and scientific work in animal husbandry.

The Dairy Barn is a frame building with cement foundation and brick pilasters. The main part is 50 by 100 feet, two stories high, with two wings extending to the south, each 46 by 80 feet, one story in height. There is also a milk room, boiler room, and fuel room, as well as bins for the storage of grain and feed. The cow stables are floored with concrete and provided with modern stanchions, milking machines, and feeding facilities. Wide aisles afford convenience to students and visitors. Three silos of different types, erected adjoining the Dairy Barn, are regularly utilized in the feeding of the dairy animals. The second story has storage capacity for one hundred tons of loose hay.

The Cattle Barn. The department of Animal Husbandry has a modern beef-cattle and sheep barn. It is located just west of the old barns, and has a floor space of 52 by 120 feet for sheltering stock. The hayloft has a large storage capacity for three hundred tons of hay and straw. Adjoining the barn are several concrete-floored exercise lots and a new stave silo. Especial conveniences are provided for the feeding, watering, weighing, and handling of livestock. The west half of the barn is at present devoted to beef cattle and the east half to sheep, although it is planned that the entire barn will eventually be used for beef cattle.

The Poultry Houses. On a five-acre tract of land, lying southwest of Cauthorn Hall, have been erected several buildings for the needs of the department of Poultry Husbandry. The main poultry building is a three-story structure and is used principally for class, laboratory, and demonstration purposes. It contains a demonstrating room with desks and other necessary equipment; a shop, with the necessary tools, benches, and equipment for practice work in building poultry-plant equipment; storage rooms, office, and wash rooms are also provided. In the basement, rooms are provided for fattening and killing fowls, an incubator room for student use, and a feed room with the necessary machinery for grinding and mixing poultry feeds. Besides the main poultry building there is an incubator house, with a capacity of twenty-four incubators and complementary apparatus; and a feed-storage building and a brooding house. There are also colony houses for laying and breeding stock and growing chicks. Part of the colony houses are movable and constructed upon a plan that could be adopted by any farmer. The colony brooding coops are also portable and are used for investigations in both natural and artificial brooding.

Hog Barn and Feeding House. During the fall of 1916 the Animal Husbandry department obtained its long-needed hog barn and feeding house. The barn is designed especially for farrowing and contains twenty-nine pens, with a four-foot alley running the length of the building from east to west. Concrete is used for the entire floor, the feeding troughs, and the automatic watering equipment. The feeding house is 28 by 40 feet in dimensions, three stories high. The ground floor is occupied by a driveway and entrance alley, root bin, two large grain bins, which extend through the second story, and a hopper for dumping grain into the elevator, which leads to the third floor. It provides also equipment for dividing, weighing, and loading pigs, as well as a small boiler for heating water. The second story provides room for the storage of straw, six smaller grain bins with hopper bottoms, and sleeping quarters for the herdsman. The third floor contains the grinder, motor, chutes to grain bins, and storage room for movable equipment. The total capacity of the building is 15 tons of roots, 6,308 bushels of grain, and 40 tons of straw.

THE INCOME OF THE COLLEGE

Funds for the support of the College in its three grand divisions of work, Resident Instruction, Experiment Station, and Extension Service, are derived both from the National Government and the State of Oregon, as follows:

FOR RESIDENT INSTRUCTION**FROM THE NATIONAL GOVERNMENT**

Land-Grant Interest Fund. Interest under the land-grant fund accruing under the act of Congress of 1862 approximates \$11,800 a year. No part of this fund may be used for the purchase, erection, or maintenance of any building.

The Morrill-Nelson Fund. An additional annual appropriation of \$50,000 a year is provided in the Morrill Act of 1890 and the Nelson amendment thereto of 1907, with the same limitation as to usage indicated for the land-grant interest fund.

FROM THE STATE OF OREGON

The Millage Tax. The Resident Instruction work of the College is chiefly dependent for maintenance, including buildings and betterments, upon the income from the millage tax, as provided by the State Legislature of 1913, and by vote of the people May 21, 1920. The income from this source for the calendar year of 1921 is approximately \$1,130,053.

From entrance fees, for the year 1920-21, Resident Instruction work derived an income of approximately \$18,500.

FOR EXPERIMENT STATION

Funds for the experimental work of the College, which is conducted both at the Corvallis Station and at seven branch stations located in different parts of the State, are derived from the National Government, the State of Oregon, and Oregon counties, as follows:

FROM THE NATIONAL GOVERNMENT

The Hatch Fund. Under an act of Congress, approved March 2, 1887, the College receives \$15,000 a year for the maintenance of an Agricultural Experiment Station, "to aid in acquiring and diffusing among the people useful and practical information on subjects connected with agriculture."

The Adams Fund. An act of Congress, approved March 20, 1906, provides an annual appropriation of \$15,000.

This fund is "to be applied only to paying the necessary expenses of conducting original researches or experiments bearing directly on the agricultural industry" of the State, and therefore supplements the Hatch Fund in the maintenance of the Experiment Station.

For the support of the **branch stations** at Moro and Hermiston the National Government appropriates annually \$7,500.

FROM THE STATE OF OREGON

State Funds. The State legislature of 1921 made the following appropriations for agricultural investigations during the biennium, 1921-1922. For the general work of the Experiment Station, \$50,000; for crop pest and horticultural investigations, \$30,000; for soil, drainage, and irrigation investigations, \$15,000; for dairy investigations, \$15,000, making a total of \$110,000.

The State also appropriates \$44,500 annually for the support of **branch experiment stations** at Astoria, Burns, Hermiston, Hood River, Moro, Talent, and Union.

County Fund. The Hood River Station receives an additional appropriation of \$4,000 annually from Hood River county.

FOR EXTENSION SERVICE

FROM THE NATIONAL GOVERNMENT

The Smith-Lever Fund. This fund was established by the Smith-Lever Agricultural Extension Act passed by Congress May 8, 1914. By its provisions the Oregon Agricultural College received \$10,000 from the Federal Government to apply towards the support of the Extension Service for the fiscal year ending June 30, 1915. This sum was to be increased annually for seven years, the maximum being reached in the fiscal year 1922-23. In order to maintain Extension work, which had expanded rapidly during the war, Congress appropriated for the fiscal year 1919-20 a Supplemental Federal Smith-Lever fund of \$1,500,000, making available for that year the maximum Smith-Lever fund. A supplemental appropriation in the same amount was provided for 1920-21. For the fiscal year ending June 30, 1921, Oregon's total Smith-Lever funds, including Regular and Supplemental, are \$44,088.76. Beginning with July 1, 1921, Smith-Lever funds will be allotted on the basis of the Fourteenth Census, distribution being determined by the rural population in each state. Only tentative figures on the new census are available, but these indicate that Oregon's allotment of Smith-Lever funds under the Act of May 8, 1914, for the fiscal year beginning July 1, 1921, will be \$37,781.20. On this same basis the maximum

Smith-Lever fund for Oregon, beginning July 1, 1922, will be \$41,-639.70. Complete census returns may change these estimates. After July 1, 1922, the maximum increase will continue as a permanent appropriation as long as an equal sum be "appropriated for that year by the legislature" of the State, "or provided by state, county, college, or local authorities, or individual contributions within the State for the maintenance of the cooperative agricultural extension work provided for in this Act."

Department of Agriculture Cooperative Funds. For the fiscal year ending June 30, 1921, the United States Department of Agriculture has given Oregon \$27,000 for Extension work in agriculture and home economics, the State duplicating this amount up to \$15,-000, as shown under "Cooperative Work." In addition, the Bureau of Biological Survey of the United States Department of Agriculture has appropriated approximately \$12,000 for rodent control work during the fiscal year.

FROM THE STATE OF OREGON

For General Extension Work. The State appropriates \$25,000 a year for general extension work, including extension schools, lectures, demonstrations in agriculture and homemaking, publications, and Farmers' and Homemakers' Week. To meet the Smith-Lever increase the State appropriated \$55,087.48 for the biennium 1921-1922.

For Cooperative Work. For cooperative work with the United States Department of Agriculture, as above mentioned, the State appropriates \$15,000 a year.

For County Extension Work. To meet the appropriations made by various counties for maintaining county extension work, including agricultural and home demonstration agent work, the State is now appropriating approximately \$56,400 a year.

OFFICIAL PUBLICATIONS

The Oregon Agricultural College Bulletin. This is a periodical publication issued semi-monthly. It includes the Reports of the Board of Regents, the general College Catalogue, special announcements of College courses of study, illustrated booklets depicting College activities of special interest or timeliness, announcements of the Summer Session, announcements of the Winter Short Courses, and circulars to prospective students.

Extension Bulletins. These bulletins consist of monographs on the various phases of Agriculture, Household Science and Household

Art, Engineering, Mining, and Commerce, together with bulletins and circulars issued in connection with the Industrial Club work for boys and girls in the public schools and the Home Cooperative Demonstration Projects. These bulletins are written in such style as to be easily understood, thus meeting the popular demand for scientific knowledge and giving it in such form that the people of the State may profit by its application to the problems of everyday life.

The Station Bulletins. These publications include reports upon research problems and upon experimental investigations in agronomy, horticulture, drainage and irrigation, dairying, animal husbandry, poultry husbandry, insect pests, plant diseases, home economics, and special subjects of interest to the husbandman, conducted at the home station or the several branch stations.

STUDENT ORGANIZATIONS

One of the most important factors in rounding out the results and benefits of a college course is the society, club, or association work. As a result of the diverse interests of college life and the varied tastes of the students, the following organizations, besides many others, are maintained by students and faculty.

GENERAL ORGANIZATIONS

The Student Body Assembly. This is an organization of the entire student body working under a constitution and by-laws approved by the faculty and having general authority over all student body enterprises. Officers are elected annually, nominations and elections being conducted in a manner similar to that of the state electorate. The officers consist of a president and a secretary chosen from the senior class, and three vice-presidents, chosen one each from senior, junior, and sophomore classes. These five officers, as a whole, constitute the executive committee of the student body and have general supervision of all affairs of interest to the student body.

The Board of Control. The Board of Control consists of three faculty members appointed by the President of the College, one alumnus chosen by the Alumni Association, and five students who are the executive committee of the student body. The student body constitution vests in this Board of Control authority to supervise all student body interests entailing the expenditure of student body funds. They exercise functions in the main by the approval of budgets and schedules. The immediate supervision is exercised through a general manager appointed by the Board of Control.

Student Self-Government. Student self-government at the College places the general disciplinary powers of the institution in the hands of the students. The Student Council, an organization made up of ten students, five of whom are seniors, three juniors, and two sophomores, has been created and vested with such powers as are necessary to enforce the rules and regulations adopted by the students. Three members of the Student Council hold that position by virtue of their office as president of each of the classes. The remaining members are elected annually by the student body.

The Greater O. A. C. Association. This Association, which includes the whole student body of the College, was organized in 1918 to promote the welfare of the State and the College by fostering a finer college spirit and a keener interest in higher education throughout the State. The students from each county in the State constitute a separate sub-organization with a chairman and other officers who work directly under the leadership of the Greater O. A. C. Executive Committee, composed of three students chosen by the student body at the regular election in the spring. The Association cooperates with the Alumni Association in work for a greater and better O. A. C.

Women's League. The Women's League, organized in 1916, includes all the young women of the student body. In the fall of 1919 it became a member of the Oregon Federation of Women's Clubs. The purpose of the League is to develop unity among the women of the campus and to promote the spirit of democracy. With the approval of the Dean of Women, who is vitally interested in all phases of the activities of the League, the young women determine the general regulations governing women students.

The Cosmopolitan Club. This organization of foreign and American students, installed in 1911, is the local chapter of the Association of Cosmopolitan Clubs of the World. Its purpose is to provide social and educational advantages for its members and to promote international friendship. At present, sixteen countries are represented in the local chapter.

CHRISTIAN ASSOCIATIONS

Both the Young Men's and the Young Women's Christian Associations occupy a vital place in the life of the College community. Each association has a full-time general secretary on the campus.

The Young Men's Christian Association was organized at the Oregon Agricultural College in 1890. The Association has grown steadily, enlarging the scope and effectiveness of its work. During

the war the Association was reorganized on the basis under which the Army associations operated in the training camps, and during the S. A. T. C. at the College the "Y" Hut was the center of varied activities and services which built up a remarkable morale among the men in uniform. The College "Y" is now performing a similar service among the student body. The Employment Bureau for Men is conducted by the Y. M. C. A. The Association brings to the College each year a number of distinguished leaders whose addresses are stimulating and inspiring. The writing rooms, committee rooms, the auditorium, and stage have been at the service of the students for social, religious, and other student activities. The Hut continues to be used for College "sings," "movies," and other entertainment vital to the life of the institution. The "Y," in short, is firmly established as a strong inspirational influence in the life of the College.

The Young Women's Christian Association aims to cooperate with all forces of the College and of the community in promoting among the women students a well-developed life. The General Secretary is at the service of all of the women of the campus, at the Association headquarters in Shepard Hall. Those who wish to earn their way through college should apply to the General Secretary, who has charge of the Employment Bureau for Women. On registration days young women of the Y. W. C. A. meet the incoming students and assist them in adjusting their work. The meetings of the Association are held the first and third Thursday of every month. All women are cordially welcome to these meetings. Bible, mission, and industrial study classes, community service, parties, and teas form part of the year's program. Over half of the women in the College are members of the Y. W. C. A.

ATHLETIC ORGANIZATIONS

The Athletic Association. This organization, maintained by the students through the student body assembly, encourages wholesome competition in the various outdoor and indoor intercollegiate sports. It has charge of all details pertaining to the conduct of intercollegiate athletics in which the College may be interested. A committee of the faculty has general supervision over the whole subject of athletics, thus assisting to insure a sound and conservative management.

The Varsity O Association. This association, which succeeds the Orange O club, includes all men of the College who have been officially awarded the Orange O in recognition of service on the

intercollegiate athletic teams of the College. The function of the Varsity O Association is to promote the athletic ideals of the College and to serve in an advisory capacity to the Athletic Board of Control.

FORENSIC AND DRAMATIC ORGANIZATIONS

O. A. C. Forensic Society. This is a new organization with the purpose of bringing together for cooperative activity all campus organizations interested in any phase of forensics, including Mask and Dagger, Zeta Kappa, Varsity Forensic Association, Girls' Industrial Club, Shakopean Society, and independents interested in forensics. This society through its members has charge of all business pertaining to competitive work in oratory and debate and cooperates in the promotion of forensics and dramatics at the College.

Intercollegiate Debate and Oratory. Each year the Oregon Agricultural College has three intercollegiate debates, putting into the field six teams, three supporting the negative and three the affirmative of the same question. The College sends one representative each year into the old-line State Oratorical Contest in which eight colleges take part. Gold medals are awarded to the men who represent the College in these events.

Local Debate and Oratory. There are interclass and interfraternity contests in debate, oratory, and extempore speaking, those in extempore speaking being carried on in connection with the classes in public speaking. A money prize is given for the best extempore speaking by a student in these contests. In the annual interclass forensic-athletic championship contest two representatives from each class participate. The winner represents the College in the State contest.

The Mask and Dagger. This club was organized for the purpose of offering special training in dramatic art. A try-out is held at the beginning of the college year in which all students except freshman men may participate. If elected by the club's judges they become eligible to try out for college plays. Successful participation in a college production entitles them to active membership in the club. No student, however, will be permitted to take part in a public production who has not an average for all his College work, at the time the play is being prepared, of at least 75 percent. Platform exhibitions are given and standard plays presented during the college year.

Shakopean Literary Society. This society, organized in 1918, is open to men and women of the student body, with a member-

ship limit of thirty-five. The purpose of the organization is encouragement of public speaking. Features of the meetings are debating, oratorical contests, and discussion of current topics.

MUSICAL ORGANIZATIONS

Musical organizations at the College are directed and coached by members of the faculty of the School of Music. Further details may be found by referring to the section of the Catalogue devoted to the School of Music.

The College Band. To become a member of the College Band a student must pass a satisfactory examination in the elements of music and ability to perform on his instrument. Attendance at rehearsals and individual practice are required. Members furnish their own instruments, except basses, baritones, altos, and drums, which are furnished by the College. Instruments must be in low pitch.

The Orchestra. Membership in the College Orchestra is on a basis of standards of musical attainment determined by the conductor of the Orchestra. The training afforded by membership in the Orchestra is of great educational and cultural value to the student.

The Glee Club. Membership in the Glee Club is determined by the director after personal examination of the voices of candidates from all classes in the College. Regular rehearsals are required. The club participates in many public campus functions, and annually tours the State. The programs presented are composed of the best classical and popular music for men's voices, the preparation of which is a valuable experience in voice culture and interpretation.

The Madrigal Club. The Madrigal Club is a singing organization for young women open to talented singers throughout the student body. The club is honored by membership in the National Federation of Music Clubs. Concerts by the Madrigal Club include the most beautiful classical arrangements for women's voices, as well as those termed "popular," and frequently this club presents an opera in conjunction with the Glee Club.

The Mandolin and Guitar Club. The Mandolin Club fills a place in student life for those enjoying the "small strings" in combination. The club is open to all qualified students, and numbers among its members some of the most highly gifted student musicians on the campus.

TECHNICAL CLUBS

The Agricultural Club. This club was established in 1905 for the purpose of advancing interest in the various phases of agriculture, and promoting the investigation and discussion of both general and special agricultural subjects.

The Lewelling Club. This is a club conducted under the auspices of the department of Horticulture.

The Withycombe Club. Membership in this club is open to all students taking Animal Husbandry work.

Farm Management Club. This club aims to promote study and efficiency in the practice of the science of farm management.

Soils Improvement Club. This club aims to bring the students and faculty of the Soils department together and to broaden the field of soils improvement.

The Commercial Club. This is a student organization within the School of Commerce. The purpose of the club is to bring its members into close relation with current methods and events in the commercial world.

The Civil Engineering Club. This is an organization within the departments of Civil and Highway Engineering.

The Electrical Engineers. This is the College branch of the American Institute of Electrical Engineers, installed in 1908.

Mechanical Engineers. The College branch of the American Society of Mechanical Engineers meets at regular intervals for presentation of technical papers by members and by practicing engineers.

American Association of Engineers. A local chapter of this national organization was installed at the College in 1920. Regular meetings are held monthly.

The Forest Club. This is an association of students and instructors "formed for the purpose of promoting the forestry interests of the State."

Chemical Engineering Society. The purpose of this society is to promote interest in chemical engineering by presentation of papers and experimental demonstrations on current topics in this field by students, faculty, and others of practical industrial experience.

The Home Economics Club. This is an organization for the purpose of bringing all the women of the School of Home Economics into closer touch with one another than is possible without a central

organization. The aim of the club is to give, by a series of monthly meetings, a general survey of home economics questions not covered in regular classroom work.

The Miners Club. This body, which is an affiliated students' branch of the American Institute of Mining and Metallurgical Engineers, has for its object the discussion of technical engineering subjects, review of current mining literature, presentation of original papers by the active members, and occasional lectures on special mining topics by men from outside the College.

The Pharmaceutical Association. The main purpose of this organization, which consists of the pharmacy students, is to bring its members into closer relation with the current events of the pharmaceutical world. This is brought about by discussions in the monthly meetings of topics pertaining to pharmacy, and by addresses at various times during the year by prominent pharmacists and salesmen of the State.

HONOR SOCIETIES

Gamma Sigma Delta. A chapter of this national honor society of Agriculture was installed at the College in 1909. Election is limited to students of graduating and post graduate classes in agricultural colleges who have shown exceptional ability during their undergraduate or graduate work, and to those alumni and faculty members who have rendered signal service to the cause of agricultural development.

Alpha Zeta. This is a national agricultural fraternity requiring as a basis for membership high qualities of scholarship, leadership, and manhood. Election is by vote of the active members of the local chapter, and only those members of the junior and senior classes in Agriculture are eligible who rank in scholarship with the upper two-fifths of these classes.

Delta Psi Kappa. Iota chapter of Delta Psi Kappa, national, honorary Physical Education sorority, was installed at the Oregon Agricultural College on January 24, 1920. Membership is based on scholarship, personality, and leadership in Physical Education.

Lambda Chi Lambda. Membership in this honorary Engineering fraternity is confined to upperclassmen in Engineering. The object is to bring to the student of engineering the practical work of the engineering world. Members are elected on a basis of qualities of manhood, practicability, and scholarship.

Sigma Tau. Zeta chapter of this national honorary Engineering fraternity was installed at the College in 1913. Membership is

restricted to junior and senior students in Engineering and Forestry, election to membership being based principally upon excellence in scholarship.

Alpha Kappa Psi. Theta chapter of Alpha Kappa Psi, national Commerce fraternity, was organized during the year 1913-14. The purpose of the fraternity is to promote investigation along scientific lines in all phases of commercial work. Membership is open only to men students in the junior and senior year in the School of Commerce; and in order to be elected to membership a student must have shown himself a leader both in scholarship and in student activities.

Phi Theta Kappa. Gamma chapter of Phi Theta Kappa, national honorary Commerce sorority, was installed at the Oregon Agricultural College on May 8, 1920. Membership is open to junior and senior women in the School of Commerce and is based on scholarship, personality, and leadership. The object of the organization is to promote a closer association among the leading women in Commerce in order that they may work together for the best interests of the school and the furtherance of high ideals among women entering the business world.

Aristolochite Society. A chapter of this national honorary Pharmacy society was installed at the Oregon Agricultural College on May 15, 1919. The purpose of the organization is to recognize efficiency in scholarship among junior and senior Pharmacy students.

The Forum. This society was organized by the junior and senior classes in the spring of 1914, its primary purpose being to recognize efficiency in scholarship among junior and senior students. Election is made to the society by its own members. The fact that high standards of general excellence have been set by charter members makes it a decided honor to any student to be elected to membership.

Omicron Nu. Lambda chapter of Omicron Nu, national Home Economics organization, was installed on the campus May 30, 1919. Elections are based on scholarship, personality, and leadership. The society's main objects are to promote leadership and to further home economics ideals.

Scabbard and Blade. The local chapter of this national honorary military society, C Company, Second Regiment, was installed in 1920. Its purpose is to raise the standard of military training in American colleges, uniting in closer relationships their military departments, and fostering the essential qualities of good and efficient officers. Election to membership is based upon qualities of leadership and military and scholastic attainments.

Sigma Delta Chi. A local chapter of the national professional journalistic fraternity was installed in 1920. The fraternity has for its purpose the association of college journalists in order to advance the standards of the press and to promote higher scholarship. Students in Industrial Journalism who have a definite intention of entering journalism as a profession, and who are members of the upper classes, are eligible to membership. Elections are based on journalistic ability, leadership, and personality.

STUDENT PUBLICATIONS

The Barometer. In March, 1896, the literary societies of the College began the publication of a monthly periodical, the "O. A. C. Barometer." The enterprise met with deserved success, and "the organ of the student body" is now issued as a four-page, six-column semi-weekly. It publishes the news of the College, and is of general public importance as representing the interests, character, and accomplishments of the student body at the College. By action of the Board of Regents, resulting from a unanimous recommendation of the student body, a portion of the regular term student fee of \$5.00 is devoted to the "Barometer," and every student regularly receives the paper.

The Beaver. The annual publication of the junior class made its initial appearance as "The Orange" in 1907. It is a high-class publication, substantially bound, and fully illustrated with photo-engravings, pen-and-ink sketches, and line and wash drawings. It is a full-dress carnival of the year's life, representing the dignity, the beauty, the versatility, the gaiety, the traditions, the sentiment, and the solidarity of the Oregon Agricultural College.

The Oregon Countryman. This is an illustrated monthly magazine, published by the students in Agriculture and Home Economics under the supervision of the faculties of these schools. It is designed to be of special service to the farm home. Besides dealing in a practical manner with the various College departments, it contains articles of scientific value contributed by the Experiment Station workers. Successful men and women of the State contribute articles for each issue.

The Student Engineer. This is a semi-annual magazine devoted to engineering and mechanic arts. Its purposes are to record engineering progress in the Northwest; to furnish news; to publish records of scientific work done by students in this institution; and to publish any matter of special technical and scientific interest to civil, mining, mechanical, and electrical engineers, and foresters and others engaged in technical pursuits.

The O. A. C. Directory, a magazine published twice a year by the students of the School of Commerce under the supervision of the faculty of the School, is devoted to the commercial interests of the College and the State. Articles of merit are contributed by students, faculty, and prominent business men of the State. A feature is the publication each year of a complete directory of all the members of the institution, students, faculty, and employees.

The O. A. C. Alumnus. This is a quarterly periodical edited and issued for the Alumni Association by the Secretary of the General Alumni Association of the Oregon Agricultural College, whose office is at the College.

The Orange Owl. This is a publication, issued quarterly during 1920-21, designed to promote creative talent among the students in the expression of wit, humor, verse, prose fancy, whimsical essay, pen sketch, and cartoon. The initial publication appeared during Junior Week End in the spring of 1920.

The Forest Club Annual. The Forest Club Annual is an illustrated magazine published by the Forest Club. Its objects are more closely to unite the forestry and lumbering interests of the Pacific Northwest, to advance scientific forestry and lumbering, and to promote forest interests in every feasible way. Articles of technical value are contributed by members of the faculty and by graduates, experts in their respective fields of effort.

STUDENT EXPENSES

GENERAL FEES

Tuition is free to all students, regardless of the place of residence. The regular College fees, excepting for special students in music who take no other College work, are as follows:

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|---|---------|
| Entrance fee, payable annually on registration..... | \$ 5.00 |
| Incidental (Student) fee, payable each term..... | 5.00 |

The student fee gives every student of the College the benefits of the Health Service; admission to all athletic events on the campus, all concerts by the student musical organizations, all forensic contests, all lyceum entertainments directed by the Student Council, and a subscription to the student newspaper, The Barometer.

| | |
|---|-------|
| Deposit for military uniform (men), subject to refund on return of uniform..... | 10.00 |
| Gymnasium fee, a term..... | 2.00 |
| Women, \$1.50; Men | |
| Diploma fee on graduation..... | 5.00 |
| Binding fee for graduation thesis..... | 1.00 |
| Vocational certificate fee | 1.00 |

LABORATORY FEES AND DEPOSITS

Students are charged small fees in the different laboratory courses to cover the cost of material used; and deposits are required to cover cost of breakage in laboratory courses where breakages are likely to occur. These fees are payable at the beginning of each term. At the end of the term deduction is made for actual breakage, and the balance of the deposit is refunded to the student. The fees and deposits charged each term are indicated in connection with the detailed descriptions of the various courses. Any changes in laboratory fees due to changes in market prices of laboratory materials are announced at the beginning of each term.

DEPOSIT FOR MILITARY UNIFORM

Each year a deposit of \$10.00 will be required of all men registering. This deposit will be refunded on the presentation of a certificate exempting a student from military instruction or a certificate from the military department showing that all military clothing charged to him has been turned in or paid for.

BOARD AND ROOM

Women's Dormitories. Waldo Hall, Cauthorn Hall, and the new Women's Dormitory, just completed, with their large airy parlors and halls, are pleasant residences for the young women who come from distant homes. The buildings are supplied throughout with pure mountain water, both hot and cold, electric lights, steam heat, and other modern conveniences. The rooms are furnished with iron bedsteads, mattresses, dressers, tables, and chairs. Such other materials as are needed to make the furnishings complete, including pillows, pillow-cases, sheets, blankets, bed spreads, and towels are furnished by the student. Many of the students prefer to make the rooms more homelike by bringing rugs, curtains, pictures, sofa cushions, etc.; these latter articles, however, are not at all necessary, for the rooms are cheerful and comfortable without additional furniture. The bedrooms average about 12 feet by 15 feet, with one window 3 feet by 7 feet. Many of the rooms are larger, and a few of them have two or three windows. All rooms in the new dormitory have two or more windows. Most rooms are furnished with single beds, but a few double ones are available. There are a limited number of single rooms in each hall. Preference for single rooms should be indicated early. The many advantages of having a roommate should not be overlooked by the student in making her plans for college life.

The conditions of living in the dormitories are such that the College considers it a distinct advantage to the women students to live in these halls of residence. A wholesome, busy student atmosphere is maintained. Reasonable freedom is allowed, but week nights are reserved for study. All girls entering the College are expected to live in one of the dormitories, unless their parents reside in the city, or they are given special permission from the Dean of Women to live elsewhere. This permission must be obtained from the Dean of Women previous to registration.

The expenses for living for each student in the dormitories are as follows:

| | |
|--|---------|
| Room deposit..... | \$ 3.00 |
| Room rent for each term— | |
| Single room | 30.00 |
| Double room | 15.00 |
| Board per week, payable monthly in advance..... | 5.00 |
| Incidentals, such as laundry fee, electric iron fee, etc., for each term..... | 2.00 |

The College authorities reserve the right to increase the price of room and board should advancing prices make it necessary. A corresponding decrease will be made whenever decreased prices make it possible.

The room deposit of three dollars must be sent to the Registrar at the time of application for a room. When the student withdraws from College, this deposit will be refunded, upon presentation of the receipt, if no damage has been done to the room or furnishings. In case a student who has applied for a room does not enter the College the deposit will be refunded provided notification is sent at least one week before the opening day.

Women students are not expected to arrive in Corvallis until the day the halls are opened. The dormitories will open for students September 18, 1921, the day preceding the first registration day.

Men's Dormitory. The rooms in the Men's Dormitory accommodate from two to four students each. The rooms all have large windows, averaging in space 4 by 4 feet for each occupant. Comfortable cots, study tables, chairs, drawers, closets, and other conveniences are furnished. Each occupant furnishes the following articles: pillow, pillow-cases, mattress cover, sheets, blankets, bed spread, towels, soap, and individual toilet articles. Rugs, pictures, laundry bag, and similar accessories may be provided to suit the student's desires.

In the large, well-lighted basement, with cement floor, a cafeteria provides wholesome meals at cost. The cafeteria is open to students whether living in the Dormitory or not.

Rooms in the Men's Dormitory are assigned in the order that applications are received. Changes in the assignment may be arranged by communication with the designated authorities of the College. A deposit fee of three dollars is required, which will be refunded at the close of the year, less any deductions necessary to repair damage or abuse. During 1920-21 a uniform fee of \$12.00 a term (approximately twelve weeks) was charged each occupant of the Dormitory for room accommodations.

Private Board for Men Students. Board and room may be secured in private families in the city of Corvallis. Good accommodations for self-boarding, or for club-boarding, can also be secured in the city. By clubbing, or renting rooms and boarding themselves, students materially reduce the cost of living. Students, however, will not be permitted to live at places not approved by the Faculty.

Housing Committee. A committee of the Faculty renders aid to all students who desire advice or assistance in finding suitable lodgings. By a careful survey of the probable number of students entering the institution each term, and a thorough canvass of the housing resources of the College and the city of Corvallis, the committee is able to offer accommodations to all students who are expected to arrive, and to provide against emergencies. The Housing Committee also supervises the purchase of property by clubs, fraternities, sororities, and other student organizations that are providing themselves with permanent college residences.

PERSONAL EXPENSES

Lists of private boarding places can be secured from the Secretary of the Y. M. C. A. after the student arrives at the College.

The personal expenses of students vary. Many students are able to go through the college year on a comparatively small income. Questions of personal thrift, discrimination in values, and established habits are determining factors here. Men in the R. O. T. C. receive their uniforms from the Government, without cost to themselves. Men are expected to supply themselves with a gymnasium suit and regulation gymnasium shoes. The cost of the gymnasium uniform complete, including shoes, need not exceed four dollars. Women are required to provide themselves with the regulation gymnasium suit and shoes approved by the Director. The suits should be ordered at the gymnasium office at the time of registration. The price is about six dollars.

COST OF A YEAR IN COLLEGE

One of the most perplexing questions that confronts a prospective student is what his course is going to cost him a year. The necessary cost of a year at the College will vary slightly with the particular course pursued by the student. In general, it may be said that the necessary cost per annum,* exclusive of the three personal items of clothing, carfare, and amusements, averages about \$400. An estimate of this average cost for the main expense items is given below. The cost for room and board is estimated at a safe average price. The board and room items are sometimes slightly reduced, where two students occupy the same room, where students prepare their own meals, or where boarding clubs are economically managed.

| | |
|---|-----------------|
| Registration fee..... | \$ 5.00 |
| Incidental (Student) fee..... | 15.00 |
| Laboratory fees and deposits (average)..... | 60.00 |
| Text-books and supplies..... | 60.00 |
| Board (for eight months)..... | *170.00- 272.00 |
| Room rent (nine months)..... | 54.00 |

The cost of gymnasium uniform and shoes should be added. Such uniforms, however, as already indicated, should serve for more than one year. Personal expenses, such as clothing, railroad fare, laundry, society dues, etc., vary greatly with the individual.

It is not recommended that any student come to the College without sufficient funds available to purchase his books and college stationery for one entire term, pay his first month's board and room rent in advance, and pay his first term entrance fees. For the average student, this initial outlay will be approximately \$90, the balance of the annual expenses being distributed about evenly throughout the remaining months of the college year.

SELF-SUPPORT

A considerable number of students manage, in one way or another, to earn the whole or part of their expenses while attending the College. Such opportunities occur in the line of office and laboratory assistance, personal services of numerous kinds, the management of various student enterprises, agencies for laundries, etc.

The Student Employment Bureau in charge of the Young Men's Christian Association registers without charge men who apply for employment. It is the purpose of the Bureau to try to supply work, regular or occasional, to all who need it. In general, the demand for work on the part of students exceeds the supply that the Bureau

* On account of Christmas and other vacations which most students spend at home, the cost of board is estimated for eight months only.

has available; therefore the attention of new students who intend to earn all or part of their living is called to the following results of past experience:

(1) The applications received during the summer will be given first attention; but no student should expect to be able to secure employment by correspondence.

(2) There is a constant over-supply of those wishing to do teaching and clerical work. None but those having superior qualifications and experience are likely to secure employment the first term.

(3) There is a considerable demand for efficient stenographers; also for men and especially women students who can do domestic labor of any kind; board and room rent may be earned by table service, dish washing, general housework, house cleaning, gardening, etc.

(4) Students who can do any kind of domestic or manual labor well, and who have thoroughly good health, can earn their board by three hours' work a day, or board and room by four hours' work a day. But no student should come to the College without resources sufficient for the expenses of one term. (See "Personal Expenses.") Work of any kind is much more readily secured after the student has had opportunity of becoming familiar with local conditions.

(5) No student should come expecting to earn money if he can do nothing well; skill is essential, as competition is quite as severe in the College community as elsewhere.

(6) Opportunities for earning money during the summer vacations can usually be counted on, the demand for forest rangers, for field workers in engineering and mining, for skilled workmen in engineering shops, factories, canneries, and hop-yards, and for horticultural, farm, and forestry laborers, being most constant.

Upon arrival at the College, men students should report for information to the Information Bureau of the Young Men's Christian Association. Women students should report to the Dean of Women.

Women students desiring work in the Dormitories should apply early to the Director of the Women's Dormitories. The Dean of Women will be very glad to give any information to parents and prospective students concerning any matter of interest to women who are planning to enter the College.

HEALTH SERVICE

The College Health Service, inaugurated in 1916, is a department maintained with the aim of promoting the health of all the students. This aim is sought through medical examination, through consultation during office hours, through attendance of the College physician upon those in hospital and those ill at their residences, through sanitary inspection, and through supervision in case of epidemics. The services of the department, except insofar as the welfare of the College community may require, are not imposed upon any student or group of students. They are available, however, to all students who seek them voluntarily.

The department staff comprises two regular full-time physicians, whose headquarters are at the Health Service Building; two resident graduate nurses, who are in attendance at the same building, and two graduate nurses who are in attendance at the hospital, located at Ninth and Harrison Streets.

The Health Service is maintained by funds derived from the regular student fees, one-third of such fees being devoted to this purpose. The College physicians may be consulted during office hours by any student. They give medical examinations by appointment, and medical advice and attention to those who are ill. They authenticate excuses for absences from College work because of illness.

Patients who require hospital service for illness incurred while in College will be accommodated at the O. A. C. student hospital, where they receive free hospital service for a period not exceeding ten days. Hospital fees at the rate of \$2.50 a day will be charged for periods exceeding the ten days covered by the student fees.

LOAN FUNDS

Student Loan Fund. Through the liberality of friends of the Oregon Agricultural College and though the accumulation of interest on loans, an irreducible student loan fund aggregating \$16,500 (January, 1921) has been established. The purpose, as expressed by one of the donors, is "not to induce students to attend school by providing money that can be easily obtained, but rather to aid those who have determined to secure an education and are paying the cost wholly or in part from their own earnings."

The fund consists of the following contributions:

(1) One thousand dollars (\$1,000) from Hon. R. A. Booth of Eugene, restricted to students studying:

(a) Agriculture in its various phases, with a view to becoming producers from the soil.

(b) Such branches of mechanics as properly relate to agriculture.

(c) Home Economics.

(2) Five hundred dollars (\$500) known as the Ashby Pierce Student Loan Fund.

(3) One thousand dollars (\$1,000) from the College Domestic Science Dining Room at the Panama-Pacific International Exposition, restricted to the use of women students.

(4) Four thousand six hundred dollars (\$4,600), without restriction, from accumulated interest and from various College organizations, such as Folk Club, Philadelphian and Feronian Literary societies, the Barometer, the Oregon Countryman, the Cosmopolitan Club, the Faculty, the Alumni, the Christian Associations, the Winter Short Course students of 1914, the Graduating Class of 1915, Chapter AL of P. E. O., Portland, and by various individuals, including Mrs. Clara H. Waldo, Portland; Hon. Thomas Kay, Salem; Hon. James Withycombe, and W. D. Wheelwright.

L. J. Simpson Scholarship Loan Fund. The College has received a gift of \$2,000 from Mr. L. J. Simpson of North Bend, Oregon, whereby five annual scholarship loans of \$100 each, continuing throughout the four years of the student's college course, will be awarded to worthy students whose needs justify the awards. The administration of the L. J. Simpson Scholarship Loan Fund is in the hands of the regular Student Loan Fund Committee, to whom applications should be made.

The J. T. Apperson Agricultural College Educational Fund. By the will of the late Hon. J. T. Apperson, Regent of the College since its foundation, a fund amounting to between twenty-five and forty thousand dollars is to be a perpetual endowment, administered by the State Land Board of Oregon, for the assistance of worthy young men and women, "who are actual bona fide residents of the State of Oregon, and who would otherwise be unable to bear the expense of a college course at the Oregon Agricultural College." The income from this estate is to be loaned to students at a low rate of interest. Applicants for loans must be recommended to the State Land Board by the President of the College and the State Superintendent of Public Instruction.

PRIZES

The Clara H. Waldo Prize of one hundred forty dollars is an award annually made in the proportions of fifty, forty, thirty, and twenty dollars, respectively, to the woman of highest standing registered as a regular student in one of the degree curricula in the senior, junior, sophomore, and freshman year.

The A. J. Johnson Prize of one hundred forty dollars is an award annually made beginning with the year 1919-20 in the proportions of fifty, forty, thirty, and twenty dollars respectively to the man of highest standing registered as a regular student in one of the degree curricula in the senior, junior, sophomore, and freshman year.

In the distribution of the Waldo and Johnson prizes, the committees having charge of the awards are guided by the following points:

- (a) Proficiency in scholarship.
- (b) Success in student activities.
- (c) Qualities of manhood or womanhood.
- (d) Qualities of leadership.

The Joseph H. Albert Prize of twenty-five dollars is an award annually made to the senior student who is adjudged by a joint committee of faculty and students to have made the greatest progress toward the ideal of character, service, and wholesome influence.

The J. M. Dickson Scholarship of one hundred dollars, established by the estate of the late J. M. Dickson to commemorate his service to the dairy industry of the State and his faith in education as a factor in the development of agriculture, is awarded annually at the end of the junior year to the student majoring in Dairy Husbandry who in the opinion of the departmental staff excels in scholarship and initiative, and gives promise of attaining leadership in some phase of the dairy industry.

The Fawcett Cup. A loving cup, the gift of Mrs. Mary E. Fawcett, Dean of Women, is awarded each year to some one of the women's organizations of the College as a prize for the particular number of the Girls' Stunt Show which, in the estimation of three judges, possesses in the highest degree the qualities of simplicity, promptness, brevity, originality, attractiveness, and finish. The entertainment is made up of individual stunts contributed by the women's organizations of the College, whose presidents elect a manager of the show. The proceeds are awarded chiefly to the Y. W. C. A., though any funds in excess of two hundred dollars annually may be diverted, by vote of the executive committee, either wholly or in part, to some other worthy enterprise that affects the interest of all the College women. The Fawcett cup becomes the permanent property of the organization which wins first place three times.

DEGREES AND CERTIFICATES

The Oregon Agricultural College confers the following degrees: B.S., M.S., M.E., C.E., E.E., Ph.C., Ph.G.

Certificates are granted those students who complete the Vocational Curricula in Agriculture, Home Economics, Mechanic Arts, or Commerce.

Graduates of major courses in Music receive the Music Diploma.

REQUIREMENTS FOR THE BACHELOR'S DEGREE

The degree of Bachelor of Science in Agriculture, in Forestry, in Logging Engineering, in Home Economics, in Electrical Engineering, in Civil Engineering, in Mechanical Engineering, in Mining Engineering, in Chemical Engineering, in Commerce, in Pharmacy, in Military Science and Tactics, in Vocational Education, and in Industrial Arts, is conferred upon those who have satisfactorily completed the respective four-year curricula, each of which in the aggregate comprises 192 credits of collegiate work in the case of women, and 207 in the case of men, of which latter 12 are taken in Military Science and Tactics. A graduate in any of the curricula receives the bachelor's degree in any other curriculum by completing the studies required in that curriculum.

REQUIREMENTS FOR THE HIGHER DEGREES

Graduate work is done in the several departments of the College under the general supervision of a standing committee of the Faculty known as the Committee on Graduate Students and Advanced Degrees. A complete outline of the work to be pursued by the student, meeting the College requirements for the particular degrees sought, must be approved in advance by his major professor and the Committee on Graduate Students and Advanced Degrees. Candidates for any one of the higher degrees are required to complete a certain minimum of resident work, to prepare a suitable thesis, and to pass an oral examination.

The resident work may be completed in a single year by a student who devotes full time to his studies; it consists of a minimum of 48 credits, including the preparation of the thesis. Graduate credit from other institutions will not be accepted as reducing this minimum. From 24 to 36 of these credits must be devoted to the thesis and to allied subjects in the same department, and will constitute the candidate's major. From 12 to 24 credits must be selected from other departments of the College and will constitute the minor. Undergraduate work may, at the discretion of the committee, be taken as a part of the minor, but when so taken the number of credits allowed for any course will be reduced to two-thirds of the number listed in the catalogue, the assumption being that the candidate can, in work of that grade, accomplish as much in two hours as the average undergraduate in three. No course which is contained in the curriculum of any high school of the State of Oregon, nor any course regularly covered in the freshman and sophomore years of this College shall be allowed as credit toward an advanced degree; and no credit shall be allowed toward the major for any regular undergraduate course. All graduate students taking regularly announced courses must attend the examinations given as part of such courses.

The thesis must embody the results of investigation, though not necessarily original research, and a typewritten copy of the thesis, prepared according to the specifications of the committee, must be deposited with the chairman of the committee not later than two weeks prior to the date set for Commencement of the year in which the degree is desired.

After the thesis has been deposited, the chairman appoints a special examining committee and sets a date for the oral examination. This special committee consists of: (1) the one or more professors in charge of the major; (2) the one or more professors

in charge of the minor; and (3) one or more members of the Committee on Graduate Students and Advanced Degrees. The report of this committee is presented to the College Council by the chairman of the Committee on Graduate Students and Advanced Degrees. The chairman will deposit the theses of successful students with the Librarian as soon as possible after the oral examination.

Higher degrees are conferred only at the regular commencement exercises, but the committee may under exceptional circumstances allow the candidate to be absent from such exercises.

Graduate students pay the same entrance, incidental, diploma, and binding fees as undergraduates. Laboratory fees are in each case determined by the head of the department concerned, and must be paid at the beginning of the term in which the laboratory work is done.

ADMISSION TO THE COLLEGE

A. ADMISSION AS REGULAR STUDENTS

In order to be admitted to the Oregon Agricultural College a student must be of good moral character and must present evidence of preparation sufficient to pursue profitably the curriculum for which he desires to register. Such evidence of preparation must be a certificate on a blank secured from the Registrar of the College and signed by an official of the school which the student has attended, stating the nature and amount of the work completed. When a student can not present such certificate he must take the regular entrance examinations of the College, held at the beginning of each term. These examinations are based in general upon the outlines in "Course of Study for the High Schools of Oregon" issued by the State Department of Education, Salem, Oregon.

The specific requirements for entrance to the different courses at the College are as follows:

Degree Curricula. Students sixteen years of age or over, who have completed 15 units of high school work in a high school recognized as standard, will be admitted to the degree curricula on presentation of a signed statement of the principal, showing work completed. It is requested that this statement be made on the "Certificate of Record" blank of the Oregon Agricultural College. Copies of this blank will be sent by the Registrar upon application of either student or principal. The certificate, properly signed, should be filed with the Registrar of the College on or before September 13, 1921. Certificates will not be rejected at a later date, but acknowledgment of the receipt of such certificates will be made by the Registrar up to and including September 14 only.

Students sending certificates at a later date are likely to be delayed in completing registration.

The 15 units of work presented for entrance must include the following:

(1) English 3 units; Elementary Algebra, 1 unit; Plane Geometry, 1 unit.

(2) Five additional units *(†) in English, Mathematics, Foreign Languages, Laboratory Sciences, and History (including Civics). In the School of Engineering these latter units must include $\frac{1}{2}$ unit in Higher Algebra and $\frac{1}{2}$ unit in Solid Geometry. In the School of Forestry these latter units must include $\frac{1}{2}$ unit in Higher Algebra.

(3) Enough additional units selected from subjects credited towards graduation by standard high schools of Oregon must be presented to make a total of 15 units. The College grants one unit of entrance credit to students who have satisfactorily completed at least two years of work in the Junior division of the R. O. T. C.

Graduates of accredited high schools (offering 15 or more entrance units) who are deficient in any of the prescribed units listed under (2) may be permitted to make up such deficiency by taking in college equivalent courses in substitution for certain required or elective courses which in the judgment of the dean of the school may admit of substitution.

If a matriculate lacks any of the required units he must carry in College enough additional work to cover the courses lacking in his secondary credits. A student who lacks not more than two of the required entrance units may be admitted as a conditional freshman. A unit is defined as one high school subject carried for five 45-minute periods a week throughout the school year. A student is required to earn $7\frac{1}{2}$ college credits for each entrance unit that he lacks.

While Physics is not prescribed as an entrance requirement, students who are preparing to enter the School of Engineering are urged to take a year's work in high-school Physics where the work is available. Students in the School of Agriculture who have not had a full year of high-school Physics are required to pursue the subject for two terms of their sophomore year.

* Beginning September, 1922, 6 instead of 5 additional units from subjects listed under (2) will be required.

† Students registering in the School of Commerce are required to present 2 instead of 5 additional units from subjects listed under (2). In case such students should desire subsequently to transfer to another school, however, they must meet the requirements of 5 additional units from subjects listed under (2).

The foregoing requirements for entrance are in conformity with the Minimum Entrance Requirements for Oregon Institutions of Higher Education. In March, 1921, certain uniform requirements for entrance from high school were recommended to the various higher educational institutions of Oregon by the Committee on Higher Educational Standards of the Oregon State Teachers' Association, representing approximately all the colleges, universities, and normal schools of the State. These standard entrance requirements were approved by the various institutions, and are as follows:

(a) Entrance without deficiency to the colleges, universities, and normal schools of Oregon shall be contingent upon presentation of at least ten (except schools of Commerce; see footnote (†), p. 73) units in English, mathematics, foreign languages (including Latin), laboratory sciences, and history (including civics). (It is left to the individual institutions to distribute the units according to their respective inclinations).

(b) The number of units in English shall be three, and in these emphasis shall fall upon syntax and upon composition of original character.

(c) The remaining five units may be taken in any subject regularly or occasionally offered in the high school course of study in this state (such as agriculture, drawing, art, manual training, music, teachers' training, domestic science, and commerce subjects) such subjects being accepted for high school graduation.

(d) It is recommended to high schools that students taking as much as five units of work outside the five departments mentioned (that is, English, mathematics, languages, science, and history) shall take significant amounts of each subject to the end that the five units may not be devoted to smatterings of a number of these electives.

(e) In addition, each institution will make such specific requirements as it may find desirable.

Graduate Curricula. Graduates of four-year curricula in the Oregon Agricultural College or in other colleges of equal rank are eligible for registration as graduate students. Prospective graduate students are required to present credentials to the Registrar as specified under "Admission from Other Colleges."

Vocational Curricula. For admission to the vocational curricula certified evidence is required of the completion of the eighth-grade course of study in the public schools, or its equivalent. For admission to the vocational curricula or short courses in Agriculture, Dairying, Tractors, Forestry, Home Economics, and Commerce, applicants must be at least 16 years of age. Applicants who have the vocational curricula in Mechanic Arts and Auto Mechanics applicant must be at least 16 years of age. Applicants who have not completed the eighth-grade course of study, but who are 21 years of age or over, may be admitted to any of these vocational curricula at the discretion of the dean of the school in which the

work is to be carried on. For statements of the length and character of the vocational curricula, see the sections of the catalogue devoted to the respective schools.

Outlines of vocational curricula follow the outlines of degree curricula in the various schools, and descriptions of individual courses open to vocational students are given immediately following the descriptions of collegiate courses in the different departments.

B. ADMISSION AS SPECIAL AND OPTIONAL STUDENTS

Special Students. A person who has attained the age of 21 years and who has the necessary training or experience profitably to pursue courses of college grade may, with the approval of the dean of the school in which he desires to do special work, be registered as a special student. A special student is not a candidate for a degree.

Optional Students. An optional student is one who is qualified to take work of college grade but who, from the nature of the subjects elected, cannot be classified in any department or school. Optional students are under the supervision of the Dean of the Service Departments. They are not candidates for degrees.

C. ADMISSION TO ADVANCED STANDING

Advanced Standing. Students matriculating in the degree curricula with more than the number of credits required for entrance to the freshman class will be given advanced standing for such credits as represent work beyond the full four years of high school—that is, work taken in the graduate year—and are equivalent to the requirements of the curriculum in which the student matriculates.

Admission From Other Colleges. Full credit is given for regular collegiate work completed in other colleges or universities recognized as standard, insofar as such work is equivalent to the requirements of the curriculum in which the student wishes to matriculate. A student who has attended another college or university and desires to enter the Oregon Agricultural College should file with the Registrar, on or before September 13, 1921, an official certificate from the institution from which he wishes to transfer, giving evidence of: (1) his honorable dismissal; (2) a detailed statement of the entrance credits presented at the time of his matriculation at the other college; (3) a detailed statement of the work pursued while in attendance at the other college; and

(4) a marked copy of the catalogue of the institution showing by conspicuous markings the courses which he completed.

ACCREDITED SCHOOLS

Graduates of the following Oregon high schools will be admitted to the Oregon Agricultural College without condition or examination, provided their credentials include the minimum entrance requirements of 3 units of English and 2 (in Engineering and Forestry $2\frac{1}{2}$ or 3) units of Mathematics, together with 5 additional units in English, Mathematics, Foreign Languages, Laboratory Sciences, and History.

| | | |
|---------------|--------------|---------------|
| Airlie | Culver | John Day |
| Albany | Dallas | Joseph |
| Alicel | Dayton | Junction City |
| Alpine | Dorena | Kent |
| Alsea | Drain | Kerby |
| Amity | Dufur | Kings Valley |
| Antelope | Dundee | Klamath Falls |
| Applegate | Echo | Knappa |
| Arlington | Elgin | Lafayette |
| Ashland | Elkins | La Grande |
| Astoria | Elkton | Lakeside |
| Athena | Elmira | Lakeview |
| Aumsville | Enterprise | Lebanon |
| Baker | Estacada | Lexington |
| Ballston | Eugene | Long Creek |
| Bandon | Falls City | Lookingglass |
| Banks | Flora | Lostine |
| Bay City | Florence | McMinnville |
| Beaverton | Forest Grove | Madras |
| Bellfountain | Fort Kalmath | Mapleton |
| Bend | Fossil | Marcola |
| Bethel | Gardiner | Marshfield |
| Boardman | Gaston | Maupin |
| Bonanza | Glendale | Medford |
| Bridge | Glide | Merrill |
| Brownsville | Gold Beach | Metolius |
| Buena Vista | Gold Hill | Mill City |
| Burns | Grants Pass | Milton |
| Butte Falls | Grass Valley | Milwaukie |
| Camas Valley | Gresham | Molalla |
| Canby | Haines | Monmouth |
| Canyon City | Halfway | Monroe |
| Canyonville | Halsey | Monument |
| Carlton | Hardman | Moro |
| Central Point | Harrisburg | Mosier |
| Clatskanie | Helix | Mt. Vernon |
| Cloverdale | Heppner | Mt. View |
| Coburg | Hermiston | Muddy Creek |
| Colton | Hillsboro | Myrtle Creek |
| Condon | Hood River | Myrtle Point |
| Coos River | Hubbard | Nehalem |
| Coquille | Hugo | Newberg |
| Corbett | Huntington | Newport |
| Corvallis | Imbler | North Bend |
| Cottage Grove | Independence | North Powder |
| Cove | Ione | Nyssa |
| Crabtree | Irrigon | Oakland |
| Creswell | Jacksonville | Odell |
| Crow | Jefferson | Ontario |

| | | |
|---------------|--------------|-------------|
| Oregon City | Sandlake | Thurston |
| Parkdale | Sandy | Tillamook |
| Parkrose | Santa Clara | Toledo |
| Pendleton | Scappoose | Tualatin |
| Perrydale | Scio | Turner |
| Phoenix | Scotts Mills | Umapine |
| Philomath | Seaside | Union |
| Pilot Rock | Shaniko | Vale |
| Pleasant Hill | Shedd | Vernonia |
| Portland | Sheridan | Waldport |
| Powers | Siletz | Walker |
| Prairie City | Silver Lake | Wallowa |
| Prineville | Silverton | Walterville |
| Rainier | Springfield | Warrenton |
| Redmond | Stanfield | Wasco |
| Richland | Stayton | West Linn |
| Rickreall | Sumpter | Weston |
| Riddle | Sutherlin | Wilbur |
| Rogue River | Sweet Home | Willamina |
| Roseburg | Talent | Woodburn |
| St. Helens | Tangent | Yamhill |
| Salem | The Dalles | Yoncalla |

REGISTRATION

All candidates for admission should file with the Registrar a certificate of their preparatory record on or before September 14, 1921. Certificates of preparatory work will not be rejected at a later date, but applicants can not expect to receive formal acknowledgment of their receipt by the Registrar. Applicants sending in their certificates late may be delayed at registration time. Blank forms for such records may be secured from the Registrar. Such candidates should present themselves for registration at the College on September 19 or 20, 1921. Registration at a later date will be permitted only on presentation of a satisfactory reason for the delay.

Students who have not before registered at the College are advised to reach Corvallis not later than September 17, 1921, in order that they may secure a boarding and rooming place before the first day of registration.

Late Registration. Every student not registering on the regularly scheduled registration days of any term will be required to pay late registration fees as follows: \$1 for the first day late; \$1 for each additional day up to a total of \$5. Five dollars is the maximum fee. In all cases the fee will be collected as are all other fees, when the student registers.

Changes in Registration. Except in cases where the change has been initiated by the instructor in charge or by the dean, a fee of 50 cents is charged for each change in registration after ten days have elapsed from the original registration.

RESIDENT REQUIREMENTS

Every student is expected to obtain from the Registrar's office a copy of Rules and Regulations for Students, giving the routine of registration, the marking system, academic standards, regulations governing student activities, organizations, fraternities and sororities, etc. Students are held responsible for familiarity with the regulations in this handbook.

The College year is divided into three terms of approximately twelve weeks each. The terms in 1921-22 begin on September 19, January 2, and March 27, respectively.

A term credit or credit hour is presumed to represent three hours of the student's time each week for one term. This time may be assigned to work in classroom, laboratory, or outside preparation.

Normal Work for men consists of work leading to $17\frac{1}{2}$ credits a term during the freshman and sophomore years, 2 credits of which are for Military Science and Tactics, and 17 credits a term during the junior and senior years. Normal work for women consists of work leading to 16 credits a term. No regular student is permitted to register for work leading to more than $18\frac{1}{2}$ credits in any term without special permission from his dean, and not more than $20\frac{1}{2}$ credits a term may be recorded for any student. No student carrying work leading to fewer than 12 credits a term can qualify as a regular student, and only in special cases is a student permitted to register for less than 12 credits of work.

Military Science and Tactics is required of all men students, six credits each year being granted for the required work of the freshman and sophomore years.* Students over 30 years of age, those who are physically disqualified, and those who have served six months or over in the U. S. Army or Navy (except the S. A. T. C.) or who have received commissions in the Army or Navy, may be given credit in the required military work on recommendation of the faculty committee appointed to pass upon advanced credit in Military Science and Tactics. Students seeking advanced credit in Military Science and Tactics or excuse from drill must file a written petition, blanks for which may be secured at the office of the Commandant.

Physical Education is required of all students during the freshman and sophomore years and of women during the two follow-

* Nine credits each year are allowed for the elective work of the junior and senior years.

ing years also, unless they are excused on recommendation of the Professor of Physical Education for Women.

A physical examination is required of all students entering the College. In case examination of any student discloses physical defects, report is made to the Director of Physical Education, and the physical training of the student is adapted to suit, and if possible to correct, such defects.

Required Subjects. Every student before graduation from any four-year curriculum must have completed the following: English, nine credits; Economics, three credits; Political Science, three credits; Business Administration, three credits; Natural or Physical Science, nine credits. If a modern language is elected, the student will be expected to continue this through two years, though credit will be given for any work completed.

Required English Examination. All students registering in English 101 are required to take an examination on the first Wednesday of the fall term (from 3:00 to 5:00 p. m.) for the purpose of demonstrating their preparation for the work. The examination will cover the fundamental principles of grammar and require evidence of the student's ability to apply these principles in writing. Students failing to obtain a satisfactory grade in this course will be required to drop English 101 and register in English 11, a preparatory course offered for entrance credit only.

Maximum Number of Laboratory Hours. During the freshman and sophomore years the total number of laboratory hours for any student shall not exceed twenty-one hours a week for any term, on the basis of regular or normal course credits. These maxima do not include the time spent in military drill or physical education.

Credit Requirements for a Major or Minor. The term "major work" designates the field within any school in which a student is specializing to the extent of at least thirty-six credits, of which not less than eighteen shall be in one department. Students in Commerce and Home Economics may take a "minor" in some other school by carrying not less than eighteen credits of work in that school.

SCHOOL OF AGRICULTURE

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.
ARTHUR BURTON CORDLEY, D.Sc., Dean of the School of Agriculture.
ALBERT ABSHER, B.S., Secretary to the Dean.

Animal Husbandry

ERMINE LAWRENCE POTTER, B.S., Professor of Animal Husbandry;
Chief in Animal Husbandry, Experiment Station.
ORAN MILTON NELSON, B.S., Associate Professor of Animal Husbandry; Extension Specialist.
EARL OSBURN, D.V.M., Assistant Professor of Animal Husbandry.
BENJAMIN WILLIAM RODENWOLD, B.S., Assistant Professor of Animal Husbandry.
ALFRED WEAVER OLIVER, B.S., Instructor in Animal Husbandry; Experiment Station Assistant.
RAYMOND EUGENE BADGER, B.S.A., Instructor in Animal Husbandry.
CHARLES EUGENE ROBINSON, Animal Husbandry Herdsman.

Dairy Husbandry

PHILIP MARTIN BRANDT, B.S. in Agr., A.M., Professor of Dairy Husbandry; Chief in Dairy Husbandry, Experiment Station.
ROY CARROLL JONES, B.S., Associate Professor of Dairy Production.
VINCENT DICK CHAPPELL, M.S., Assistant Professor of Dairy Husbandry.
HOWARD NOTSON COLMAN, A.B., B.S., Instructor in Dairy Husbandry.
LON HAWLEY RYCRAFT, Dairy Husbandry Herdsman.
AXEL HANSEN KOEFOED, Dairy Husbandry Creameryman.

Farm Crops

GEORGE ROBERT HYSLOP, B.S., Professor of Farm Crops; Chief in Farm Crops, Experiment Station.
CHARLES CURTIS RUTH, M.S., Assistant Professor of Farm Crops; Experiment Station Assistant.
JOHN RICHARD NEVIUS, B.S., Instructor in Farm Crops; Experiment Station Assistant.
HARRY AUGUST SCHOTH, M.S., Scientific Assistant, United States Department of Agriculture; Forage Specialist.
RAYMOND GILBERT LARSON, B.S., Instructor in Farm Crops, Federal Board.
AGNES RYDER, United States Department of Agriculture, Seed Analyst.
J. C. LEWIS, Foreman of Farm Crops.

Farm Management

- HENRY DESBOROUGH SCUDDER, B.S., Professor of Farm Management;
Chief in Farm Management, Experiment Station.
CLAIR WILKES, B.S.A., Instructor in Farm Management.

Farm Mechanics

- WILLIAM JAMES GILMORE, B.S.A.E., Professor of Farm Mechanics.
ANTON EVERETT JENSEN, Instructor in Farm Mechanics.
ALVA ESMOND BRANDT, B.S.A.E., Instructor in Farm Mechanics.

Horticulture

- WALTER SHELDON BROWN, A.B., M.S., Professor of Horticulture.
ARTHUR LEE PECK, Professor of Landscape Gardening and Floriculture; Superintendent of Campus and Greenhouses.
ARTHUR GEORGE BOUQUET, B.S., Professor of Vegetable Gardening; Vegetable Gardening Specialist, Experiment Station.
EDWARD MARIS HARVEY, Ph.D., Professor of Research in Horticulture.
ERNEST HERMAN WIEGAND, B.S.A., Assistant Professor of Horticulture; Experiment Station Assistant.
HENRY HARTMAN, B.S., Assistant Professor of Horticulture.
CARL EPHRIAM SCHUSTER, M.S.A., Instructor in Horticulture; Experiment Station Assistant.
LYLE PORTER WILCOX, B.S.A., Instructor in Horticulture.
JAMES CARSEALLEN BELL, M.S.A., Instructor in Horticultural Products.
FRANK JULIUS RIMOLDI, B.S.A., Instructor in Horticulture.

Poultry Husbandry

- *JAMES DRYDEN, Professor of Poultry Husbandry; Chief in Poultry Husbandry, Experiment Station.
ALFRED GUNN LUNN, M.S., Professor of Poultry Husbandry.
FRANK ELMER FOX, B.S., Assistant Professor of Poultry Husbandry, Federal Board.
CHARLES KELLEY POWELL, B.S.A., Foreman of Poultry Plant.

Soils

- WILBUR LOUIS POWERS, M.S., Professor of Soils; Chief in Soils, Experiment Station.
CHARLES VLADIS RUZEK, B.S.A., Professor of Soil Fertility; Associate Professor of Soils, Experiment Station.
EDWARD FRITCHOFF TORGERSON, B.S., Assistant Professor of Soils; Experiment Station Assistant.
WILLIAM WATERS JOHNSTON, B.S., Assistant Professor of Soils; Experiment Station Assistant.
WARD CRETCHER, B. S., Instructor in Soils; Experiment Station Assistant.
DOUGLAS WILLIAM RITCHIE, B.S.A., Instructor in Soils.

* On leave of absence.

Veterinary Medicine

BENNETT THOMAS SIMMS, D.V.M., Professor of Veterinary Medicine; Chief in Veterinary Medicine, Experiment Station.

FREDERICK WILHELM MILLER, D.V.M., Instructor in Veterinary Medicine; Experiment Station Assistant.

JAMES NIVEN SHAW, B.S., Instructor in Veterinary Medicine; Experiment Station Assistant.

** Service Departments*

M. ELLWOOD SMITH, Ph.D., Dean of the Service Departments; Director of the Summer Session.

JOHN FULTON, M.S., Professor of General Chemistry; Director of Chemical Laboratories.

FARLEY DOTY McLOUTH, B.S., Professor of Art.

LOUIS BACH, M.A., Professor of Modern Languages.

SHIRLEY JONES, M.S., Professor of Agricultural Chemistry, Experiment Station

GODFREY VERNON COPSON, M.S., Professor of Bacteriology.

CHARLES BUREN MITCHELL, A.M., Professor of Public Speaking.

WINFRED MCKENZIE ATWOOD, Ph.D., Associate Professor of Plant Pathology.

IDA BURNETT CALLAHAN, B.S., Associate Professor of English Language and Literature.

CHARLES ELMER OWENS, A.M., Associate Professor of Plant Pathology.

LOUIS SHERMAN DAVIS, Ph.D., Associate Professor of Chemistry.

NICHOLAS TARTAR, B.S., Assistant Professor of Mathematics.

HELEN MARGARET GILKEY, Ph.D., Assistant Professor of Botany; Curator of the Herbarium.

HOWARD MARSHALL WIGHT, M.S., Assistant Professor of Zoology and Pathology.

WILLARD JOSEPH CHAMBERLIN, M.S., Assistant Professor of Entomology; Forest Entomologist.

GEORGE FRANCIS RICHARDSON, Ph.D., Assistant Professor of English.

GEORGE EWING McELFRESH, A.B., Instructor in English.

MELISSA MARGARET MARTIN, A.B., B.S., Instructor in Modern Languages.

EARL GILBERT, M.S., Instructor in Chemistry.

HAROLD KELLEY, B.S., Instructor in Agricultural Chemistry.

VALDA EVELINE SMITH, A.B., Instructor in Chemistry.

ETHEL TAYLOR, A.B., Instructor in Modern Languages.

GEORGE REUBEN VARNEY, A.B., D.D., Instructor in Public Speaking.

* Here are listed members of other faculties giving instruction open to students in Agriculture.

JOSEPH WARREN SEVERY, A.B., Instructor in Botany.
OSMAN HORACE CADY, M.S., Instructor in Chemistry.
CLAUDE MILTON NEWLIN, A.B., Instructor in English.
HENRY IRVING WEITZEL, M.S., Instructor in Chemistry.
ALBERT WASHINGTON MARKER, A.B., Instructor in Physics.
ELSA OTTILIA HORN, B.A., Instructor in Botany.
GODFREY RICHARD HOERNER, M.S., Instructor in Botany.
JOSEPH PARKE MEHLIG, M.S., Instructor in Chemistry.
ABRAHAM SCHWARTZ, B.S., Instructor in Chemistry.
MARGARET STASON, B.A., M.S., Instructor in Botany.
CHARLES WESLEY VANDEWALKER, A.B., Instructor in Mathematics.

**Other Schools and Departments*

EDWIN DeVORE RESSLER, Dean of the School of Vocational Education;
Professor of Education.
GEORGE WILCOX PEAVY, M.S.F., Dean of the School of Forestry.
GORDON VERNON SKELTON, C.E., Professor of Highway Engineering.
HECTOR MACPHERSON, Ph.D., Professor of Economics and Sociology;
Director of the Bureau of Organization and Markets.
ULYSSES GRANT DUBACH, Ph.D., Professor of Government and Business
Law.
FRANK HENRY SHEPHERD, A.M., Professor of Industrial Education.
JESSE FRANKLIN BRUMBAUGH, LL. B., A.M., Professor of Psychology.
FRANCIS LAWRENCE SNOW, Professor of Industrial Journalism.
JOSEPH KEPNER PARTELLO, Lieutenant Colonel of Infantry, United
States Army; Professor of Military Science and Tactics; Com-
mandant of Cadets.
RICHARD BURR RUTHERFORD, A.B., Professor of Physical Education for
Men; Director of Intercollegiate Athletics.
LUCY MAY LEWIS, A.B., B.L.S., Librarian.
NEWEL HOWLAND COMISH, M.S., Professor of Economics.
DOUGLAS CLERMONT LIVINGSTON, B.S., Professor of Geology.
FRANK ABBOTT MAGRUDER, Ph.D., Associate Professor of Government
and Business Law.
SAMUEL MICHAEL PATRICK DOLAN, C.E., Associate Professor of Civil
Engineering.
ERWIN BERTRAN LEMON, B.S., Associate Professor of Accounting.
CHARLES JARVIS MCINTOSH, B.S., Assistant Professor of Industrial
Journalism; Agricultural Press Editor.
LILLIAN MABEL GEORGE, B.S., A.B., B.L.S., Continuations Department,
Library.
EARL DEWITTE DONSEE, B.S., Instructor in Agricultural Education.

* Here are listed members of other faculties giving instruction open to students in Agriculture.

Curricula. The School of Agriculture offers a four-year curriculum leading to the degree of Bachelor of Science; a special four-year curriculum in Landscape Gardening leading to the degree of Bachelor of Science; graduate curricula leading to the degree of Master of Science; one-year vocational curricula in General Agriculture and Horticulture leading to certificates; and various short courses of one to twelve weeks' duration.

Admission. Detailed statements of entrance requirements, routine of registration, etc., are given in the special bulletin on "General Information," which is furnished on application. Requirements for admission to the various curricula of the School of Agriculture are as follows:

Degree curricula: Applicants must be at least 16 years of age and must have completed 15 units of work in a secondary school recognized as standard, these units to include (a) at least 3 units of English, and 1 unit each of Elementary Algebra and Plane Geometry; (b) 5 additional units of English, Mathematics, Foreign Languages, Laboratory Sciences and History (including Civics); and (c) 5 units selected from any subjects credited toward graduation in standard high schools of Oregon. Students who do not present a full unit of Physics must pursue the subject for two terms of their sophomore year.

Graduate curricula: Applicants must be holders of the baccalaureate degree from the Oregon Agricultural College or other college of equal rank.

Vocational curricula: Applicants must have completed a common school course and be at least 18 years of age. Applicants over 21 years of age who have not completed a common school course may be admitted in individual cases on approval of the Dean.

The Baccalaureate Degree. The aim of the work in Agriculture is to train young men to become successful farmers, dairymen, stockmen, poultrymen, and fruit growers; to equip them to become efficient managers of orchard and ranch properties and of agricultural cooperative organizations; to prepare them to become specialists in the service of the United States Department of Agriculture, or in some branch of technical work in agricultural colleges, experiment stations, or extension services; or to prepare them for service as teachers of agriculture in public schools.

Requirements for Graduation. The completion of 207 college credits by men and 192 by women is required for graduation. Work the first two years is prescribed, except that a three-credit option is allowed each term of the sophomore year. Students who expect to specialize in Landscape Gardening will pursue the curriculum

outlined on pages 89-90; all others will pursue the one outlined on pages 87-89. During the junior and senior years opportunity is offered for specialization in Animal Husbandry, Agricultural Chemistry, Agricultural Education, Farm Mechanics, Bacteriology, Botany and Plant Pathology, Dairy Husbandry, Entomology, Farm Crops, Farm Management, Horticulture, Poultry Husbandry, Rural Architecture, Rural Economics, Sociology, Soils, Zoology, or General Agriculture. Of the 102 junior and senior credits necessary for graduation, 31 are prescribed and 71 are electives.

In addition to the prescribed work of the first two years each candidate for graduation must have completed:

(a) Eighteen or more credits in one of the above-named subjects, as selected at the beginning of the junior year. These courses, together with the correlated subjects in other departments, must be selected with the advice and consent of the head of the department and the approval of the Dean.

(b) At least fifty-four additional credits from any of the courses given in the School of Agriculture.

(c) Not less than twenty-four credits from among such subjects as English, Public Speaking, Economics, Sociology, Political Science, and Business Administration (of which 12 credits are prescribed, see pages 87, 89) or in Industrial Journalism, Psychology, Education, Modern Languages, Mathematics, or Military Science and Tactics.*

Graduate Work. Opportunities are provided in each of the departments of the School of Agriculture for graduates of this College, or of other institutions of equal rank, to do graduate work leading to the degree of Master of Science. The requirements for this degree are explained in full in the special section of the catalogue on "General Information." For information concerning the graduate curriculum in Agricultural Economics and Rural Sociology, see the School of Commerce section of the catalogue.

Vocational Curricula. The vocational curricula and short courses are not preparatory to degree curricula. They are provided for those who have been unable to complete a high school course and for farmers or prospective farmers, young or old, who may desire a short, intensive course of instruction in agriculture. The only requirements are that the applicant must be at least 18 years of age, and must have completed the eighth grade of the public schools,

* Twelve credits in Military Science and Tactics are required for graduation. Of these, six credits each year are taken in the freshman and sophomore years. The Advanced R. O. T. C. Course is elective and comprises eighteen additional credits (nine in the junior year and nine in the senior year) all of which may be applied as electives for graduation from any school in the College.

or by practical experience have acquired the ability to carry the work successfully. Vocational curricula in General Agriculture and in Horticulture are offered. In the vocational curricula each term's work is complete in itself. The student may, therefore, attend for twelve, twenty-four, or thirty-six weeks. Certificates are awarded to students who complete the one-year courses.

Short Courses. (a) **Dairy Manufactures.** (Given during second term.) The College for several years offered a one-year vocational curriculum in Dairy Manufactures and a one-month Short Course in the same subject. These two courses are now combined in an eight- or twelve-week Short Course in Dairy Manufactures. This work is offered during the second term of the College session in the months of January, February, and March. At this time butter-makers, cheesemakers, their helpers, and others interested in this kind of work can best get away from the farm or factory.

These courses are designed to train men as buttermakers and cheesemakers. Men who are experienced in this kind of work find the instruction of great value. This is evidenced by the large number of experienced workmen who attend the courses. This new Short Course will fit them to hold more important positions. Men who have had little or no experience are able to get a good start at a fair salary after completing courses of this kind.

(b) **Farm Mechanics.** A series of short courses in Farm Mechanics covering the selection, operation, and adjustment of tractors will be given during January, February, and March.

(c) **Bee Culture.** This is a concentrated course in practical management of bees for honey production, designed to meet the needs of the man now engaged in beekeeping who does not have sufficient time to take advantage of one of the regular courses offered by the College. The following subjects are among those considered: assembling equipment; life of the honey-bee; fall, winter, and spring management; disease control; queen rearing. The course continues for four weeks during January and February. Two lectures and two laboratory periods are given each day.

(d) **Pomology.** Lectures, laboratory, and field work in orchard management, nut culture, budding and grafting, and spraying. Persons desiring this course will register Saturday, December 3, 1921, and end their work on Saturday morning, December 17.

(e) **Vegetable Gardening.** Practical problems of vegetable growing both for the home garden and for truck crops. Persons desiring this course will register Saturday, December 3, 1921, and end their work on Saturday morning, December 17.

DEGREE CURRICULUM IN AGRICULTURE

Freshman Year

Section I

| | Term | | |
|--|------------|------------|------------|
| | 1st | 2d | 3d |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| General Chemistry (Ch 101, 102, 103)..... | 3 | 3 | 3 |
| General Botany (Bot 101, 102)..... | 4 | 4 | ... |
| Principles of Economic Zoology (ZP 130)..... | ... | ... | 5 |
| Library Practice (Lib 100)..... | ... | ... | 1 |
| Crop Production (FC 100)..... | 5 | ... | ... |
| Elements of Horticulture (Hrt 100)..... | ... | 5 | ... |
| Stock Judging (AH 111)..... | ... | ... | 3 |
| ①Gymnasium (PEm 111, 112, 113)..... | 1½ | 1½ | 1½ |
| ②Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 17 ½ | <hr/> 17 ½ | <hr/> 17 ½ |

Section II

| | | | |
|--|------------|------------|------------|
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| General Chemistry (Ch 101, 102, 103)..... | 3 | 3 | 3 |
| General Botany (Bot 101, 102)..... | ... | 4 | 4 |
| Principles of Zoology (ZP 130)..... | 5 | ... | ... |
| Library Practice (Lib 100)..... | 1 | ... | ... |
| Crop Production (FC 100)..... | ... | 5 | ... |
| Elements of Horticulture (Hrt 100)..... | ... | ... | 5 |
| Stock Judging (AH 111)..... | 3 | ... | ... |
| ①Gymnasium (PEm 111, 112, 113)..... | 1½ | 1½ | 1½ |
| ②Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 17 ½ | <hr/> 17 ½ | <hr/> 17 ½ |

Section III

| | | | |
|--|------------|------------|------------|
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| General Chemistry (Ch 101, 102, 103)..... | 3 | 3 | 3 |
| General Botany (Bot 101, 102)..... | 4 | ... | 4 |
| Principles of Economic Zoology (ZP 130)..... | ... | 5 | ... |
| Library Practice (Lib 100)..... | ... | 1 | ... |
| Crop Production (FC 100)..... | ... | ... | 5 |
| Elements of Horticulture (Hrt 100)..... | 5 | ... | ... |
| Stock Judging (AH 111)..... | ... | 3 | ... |
| ①Gymnasium (PEm 111, 112, 113)..... | 1½ | 1½ | 1½ |
| ②Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 17 ½ | <hr/> 17 ½ | <hr/> 17 ½ |

①Women carry PEw 111, 112, 113, 121, 122.

②Students have the option of entering the infantry unit or the cavalry unit.

Sophomore Year*

| Section I | | Term | |
|---|------------------|------------------|------------------|
| | 1st | 2d | 3d |
| Quantitative (Ch 247), Organic (Ch 224), Agricultural Chemistry (Ch 251)..... | 5 | 5 | 5 |
| Soils (Sls 201, 202), Drainage and Irrigation (Sls 203)..... | 3 | 3 | 3 |
| General Bacteriology (Bac 201)..... | 4 | .... | .... |
| Livestock Management (AH 221)..... | .... | 4 | .... |
| Elements of Dairying (DH 200)..... | .... | .... | 4 |
| Optional | 3 | 3 | 3 |
| Gymnasium (PEm 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 2 | 2 | 2 |
| | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ |

| Section II | | | |
|---|------------------|------------------|------------------|
| Quantitative (Ch 247), Organic (Ch 224), Agricultural Chemistry (Ch 251)..... | 5 | 5 | 5 |
| Soils (Sls 201, 202), Drainage and Irrigation (Sls 203)..... | 3 | 3 | 3 |
| Elements of Dairying (DH 200)..... | 4 | .... | .... |
| General Bacteriology (Bac 201)..... | .... | 4 | .... |
| Livestock Management (AH 221)..... | .... | .... | 4 |
| Optional | 3 | 3 | 3 |
| Gymnasium (PEm 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 2 | 2 | 2 |
| | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ |

| Section III | | | |
|---|------------------|------------------|------------------|
| Quantitative (Ch 247), Organic (Ch 224), Agricultural Chemistry (Ch 251)..... | 5 | 5 | 5 |
| Soils (Sls 201, 202), Drainage and Irrigation (Sls 203)..... | 3 | 3 | 3 |
| General Bacteriology (Bac 201)..... | .... | .... | 4 |
| Livestock Management (AH 221)..... | 4 | .... | .... |
| Elements of Dairying (DH 200)..... | .... | 4 | .... |
| Optional | 3 | 3 | 3 |
| Gymnasium (PEm 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 2 | 2 | 2 |
| | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ |

| ①Sophomore Options | | | |
|--|------|------|------|
| Advanced Testing (DH 204)..... | .... | .... | 2 |
| Judging Dairy Cattle (DH 351)..... | .... | .... | 3 |
| Breeds of Livestock (AH 231, 232)..... | 3 | 3 | .... |
| Farm Motors (FM 111), Farm Tractors and Farm Trucks (FM 112), Farm Implements (FM 131).... | 3 | 3 | 3 |
| Landscape Gardening (Hrt 231)..... | 3 | .... | .... |
| Practical Poultry Keeping (PH 201)..... | .... | .... | 3 |
| Plant Propagation and Greenhouse Practice (Hrt 241) ..... | .... | 3 | .... |
| Vegetable Growing (Hrt 221)..... | .... | .... | 3 |
| Forage Crops and Root Crops (FC 231)..... | .... | .... | 3 |
| ②General Physics (Ph 201, 202)..... | 3 | 3 | .... |
| General Geology (G 202)..... | .... | .... | 3 |
| Bacteriology, Botany, Entomology, or Zoology..... | 3 | 3 | 3 |

*Students who expect to specialize in Marketing and Agricultural Economics should see the Dean before registering.

①No sophomore optional course will be given to fewer than five students.

②Required of students who do not present credit for at least one year's work in Physics.

Junior Year

| | Term | | |
|--|-------|-------|-------|
| | 1st | 2d | 3d |
| Agricultural Economics (ES 362)..... | ..... | ..... | 3 |
| National Government (PS 301)..... | ..... | 3 | ..... |
| Farm Management (FMg 302)..... | ..... | 4 | ..... |
| Genetics (ZP 351)..... | 3 | ..... | ..... |
| Economic Entomology (Ent 301)..... | 4 | ..... | ..... |
| *or Comparative Anatomy I (VM 301), 3 credits | | | |
| Plant Pathology (Bot 311)..... | ..... | 4 | ..... |
| *or Comparative Anatomy II (VM 302), 3 credits | | | |
| Plant Physiology (Bot 321)..... | ..... | ..... | 4 |
| *or Comparative Physiology (VM 321), 3 credits | | | |
| Electives | 10 | 6 | 10 |
| | 17 | 17 | 17 |

Senior Year

| | | | |
|--|----|-------|-------|
| Practical Public Speaking (PSP 251)..... | 3 | ..... | ..... |
| National Government (PS 301)..... | 3 | ..... | ..... |
| Electives | 11 | 17 | 17 |
| | 17 | 17 | 17 |

DEGREE CURRICULUM IN LANDSCAPE GARDENING

Freshman Year

| | | | |
|--|-------|-------|-------|
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| Plane Surveying (CE 121, 122)..... | 5 | 4 | ..... |
| Modern Language | 3 | 3 | 3 |
| General Botany (Bot 101, 102)..... | ..... | 4 | 4 |
| Elements of Horticulture (Hrt 100)..... | ..... | ..... | 5 |
| Trigonometry (Mth 111)..... | 4 | ..... | ..... |
| Library Practice (Lib 100) ..... | ..... | 1 | ..... |
| ①Gymnasium (PEm 111, 112, 113)..... | 1½ | 1½ | 1½ |
| ②Military Science and Tactics..... | 2 | 2 | 2 |
| | 17½ | 17½ | 17½ |

* If this course is elected, one credit should be added to electives.

①Women carry PEw 111, 112, 113, 121, 122.

②Students have the option of entering the infantry unit or the cavalry unit.

Sophomore Year

| | Term | | |
|---|------------------|------------------|------------------|
| | 1st | 2d | 3d |
| English elective① | 3 | 3 | 3 |
| Modern Language | 3 | 3 | 3 |
| Engineering Location, Curves and Earthwork (CE 221) | 4 | --- | --- |
| Railroads and Canals (CE 223) | --- | 5 | --- |
| ②General Geology (G 202) | --- | --- | 3 |
| Classification of Economic Plants (Bot 331) | --- | --- | 4 |
| Roads and Pavements (HE 311) | 2 | --- | --- |
| Pen and Pencil Rendering (A 251) | --- | --- | 2 |
| Plant Propagation and Greenhouse Practice (Hrt 241) | --- | 4 | --- |
| Landscape Gardening (Hrt 231) | 3 | --- | --- |
| Gymnasium (PEM 211, 212, 213) | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 2 | 2 | 2 |
| | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ |

Junior Year

| | | | |
|---|-----|-----|-----|
| Introduction to Economics (ES 391) | --- | --- | 3 |
| Extempore Speaking (PSp 254), Practical Public Speaking (PSp 255) | 3 | 3 | --- |
| Water-color Rendering (A 351, 352) | --- | 3 | 3 |
| Plant Materials (Hrt 331, 332, 333) | 3 | 3 | 3 |
| History and Literature of Landscape Gardening (Hrt 337) | 3 | --- | --- |
| Elementary Industrial Journalism (IJ 200) | 3 | --- | --- |
| Forest Mapping (F 224) | --- | --- | 3 |
| Landscape Drawing (Ar 311, 312, 313) | 3 | 3 | 3 |
| Electives | 3 | 3 | 3 |
| | 18 | 16 | 18 |

Senior Year

| | | | |
|---|-----|-----|-----|
| National Government (PS 301) | 3 | --- | --- |
| State and Local Government (PS 302) | --- | 3 | --- |
| Theory and Design (Hrt 431, 432) | 4 | 4 | --- |
| Town Planning (Hrt 437) | --- | --- | 4 |
| Field Practice (Hrt 434, 435) | 4 | --- | 4 |
| Business and Rural Law (PS 163) | 3 | --- | --- |
| Business Management (BA 332) | --- | 3 | --- |
| Electives | 3 | 7 | 8 |
| | 17 | 17 | 16 |

①Eng 201 must be taken one term.

②By special arrangement with the School of Mines, Landscape Gardening students are permitted to take Geology 202 and receive full credit without having the prerequisite General Chemistry.

VOCATIONAL CURRICULUM IN GENERAL AGRICULTURE

| | 1st | Term 2d | 3d |
|---|-----------|------------|-----------|
| Farm Soils (Sls 50)..... | 5 | .... | .... |
| Vocational Stock Judging (AH 11)..... | .... | 5 | .... |
| General Farm Mechanics (FM 10)..... | .... | .... | 5 |
| General Farm Crops (FC 10)..... | 5 | .... | .... |
| Feeding and Management (AH 21)..... | .... | 5 | .... |
| Diseases of Domestic Animals (VM 41)..... | .... | .... | 5 |
| Plant Disease Control (Bot 11)..... | 3 | .... | .... |
| Practical Farm Management (FMg 12)..... | .... | 3 | .... |
| Injurious Insects (Ent 14)..... | .... | .... | 3 |
| Vocational English (Eng 13)..... | .... | .... | 3 |
| Farm Accounts and Business Methods (BA 61)..... | .... | 3 | .... |
| Practical Farm Drainage (Sls 60)..... | 3 | .... | .... |
| ①Gymnasium (PEm 11, 12, 13)..... | 1½ | 1½ | 1½ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 18½ | <hr/> 18½ | <hr/> 18½ |

Practical Poultry Keeping (PH 201) may be substituted for any other three-credit subject upon the request of at least five students.

VOCATIONAL CURRICULUM IN HORTICULTURE

| | | | |
|---|-----------|-----------|-----------|
| Farm Soils (Sls 50)..... | 5 | .... | .... |
| General Farm Mechanics (FM 10)..... | .... | .... | 5 |
| Farm Accounts (BA 61)..... | .... | .... | 3 |
| Farm Dairying (DH 20)..... | .... | 3 | .... |
| Feeding and Management (AH 21)..... | .... | 5 | .... |
| General Farm Crops (FC 11)..... | 3 | .... | .... |
| Orchard Management (Hrt 11, 12, 13)..... | 5 | 5 | 5 |
| Vegetable Gardening (Hrt 21, 22, 23)..... | 3 | 3 | 3 |
| Gymnasium (PEm 11, 12, 13)..... | 1½ | 1½ | 1½ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 18½ | <hr/> 18½ | <hr/> 18½ |

SHORT COURSE IN FARM MECHANICS

| | Credits |
|---------------------------------------|-----------|
| Gas Engines and Tractors (FM 12)..... | 15 |
| Gymnasium (PEm 11, 12, 13)..... | 1½ |
| Military Science and Tactics..... | 2 |
| | <hr/> 17½ |

①Women carry PEw 11, 12, 13.

SHORT COURSE IN DAIRY MANUFACTURES

Given during the second term

| | Credits |
|---|----------|
| Buttermaking (DH 11)..... | 5 |
| Cheesemaking (DH 12)..... | 3 |
| Ice-cream Making (DH 13)..... | 2 |
| Factory Management (DH 14)..... | 2 |
| Dairy Chemistry (Ch 51)..... | 1 |
| Vocational Dairy Bacteriology (Bac 11)..... | 1 |
| Creamery Mechanics (FM 71)..... | 1 |
| Creamery Tests (DH 15)..... | 1 |
| | <hr/> 16 |

NUMBERING AND ARRANGEMENT OF DESCRIPTIONS
OF COURSES IN THIS CATALOGUE

Courses in degree curricula are designated by numbers of three digits in which the left-hand digit represents usually the year (as first, second, third, etc.) in which the course is normally pursued; the middle digit represents the group of related courses in the department to which the course belongs; and the right-hand digit represents the sequence of courses in cases where courses normally follow each other in succeeding terms. Courses in vocational curricula are numbered with two digits, the first generally representing the year in which the course is pursued, the second the sequence of the course.

Under each department descriptions of vocational courses are printed immediately after the descriptions of collegiate courses.

ANIMAL HUSBANDRY

The courses in Animal Husbandry are planned to fit the student for the actual raising of livestock on the farm, so that he may produce the highest grade of stock in the most economical and business-like manner. The student is thoroughly grounded in the underlying principles in order that he may successfully continue his study after leaving college, but the practical details are also thoroughly treated and a special effort is made to keep the students in close touch with the financial phases of the industry. Students who take this work as their specialty are expected not to devote their entire time to livestock; but, on the contrary, to familiarize themselves with crop production, soil fertility, and other phases of agriculture as well as general educational subjects.

Students electing to major in Animal Husbandry must have had considerable practical experience in farming and stock raising before they may be graduated. The nature and extent of the experience required is left to the judgment of the head of the department.

Students not majoring in Animal Husbandry but desiring to elect some work in the department will be given careful attention to see that they get just the work fitted to their individual needs.

Equipment. The equipment of the department of Animal Husbandry consists essentially of livestock, barns, and the College stock farms. During the past years the livestock available for illustration and demonstration purposes has been very much improved in numbers and quality. In addition to the livestock regularly kept on the College farm, much good stock is loaned from time to time by the leading breeders of the State. During the winter, car-load lots illustrating the market classes are brought in for demonstration purposes. The department possesses abundant equipment for the conduct of laboratory, lecture, and recitation work.

COLLEGIATE COURSES

AH 111. Stock Judging I. The various types of farm animals are studied by score cards and comparative methods, and the student is made familiar with the desirable and undesirable types of beef and dairy cattle, sheep, swine, and horses.

Required in Agriculture; freshman year; any term; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$0.25. Text: Vaughan, Types and Market Classes of Live Stock.

B. W. Rodenwold, E. B. Osborn, R. C. Jones

AH 115. **Stock Judging II.** Same as AH 111.

Elective for women; first term every other year; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$0.25. Text: Vaughan, *Types and Market Classes of Live Stock.* *A. W. Oliver*

AH 221. **Livestock Management.** Practical details of the care and management of livestock, stabling, grooming, sanitation, practical feeding, and kindred details of livestock farming, all with special reference to Western conditions.

Required in Agriculture; sophomore year; any term; 4 credits; 3 recitations; 1 two-hour laboratory period. Fee \$0.50. Text: Potter, *Western Live Stock Management.* *E. B. Osborn*

AH 231. **Breeds of Livestock I.** A study of the breeds of horses and beef cattle, their development, breeding, and type.

Prerequisite: AH 111. Required in Animal Husbandry; sophomore or junior year; first term; 3 credits; 3 recitations; 1 laboratory period. Fee \$0.25. *E. B. Osborn*

AH 232. **Breeds of Livestock II.** A study of the breeds of sheep and swine, their development, breeding, and type.

Prerequisite: AH 111. Required in Animal Husbandry; sophomore or junior year; second term; 3 credits; 3 recitations; 1 two-hour laboratory period. Fee \$0.25. *B. W. Rodenwold*

AH 311. **Stock Judging III.** Course in judging of all kinds of stock.

Prerequisite: AH 111. Elective in Animal Husbandry; junior year; third term; 3 credits; 4 two-hour laboratory periods. Fee \$0.25. *B. W. Rodenwold*

AH 351. **Animal Nutrition.** The chemical and physiological principles of animal nutrition; function of the various classes of nutrients when taken into the animal body; nutritive ratios; feeding standards; compounding ratios; feeds with special reference to chemical composition, energy, values, and general adaptability to stock-feeding purposes.

Prerequisite: Ch 251. Required in Animal and Dairy Husbandry; junior year; first term; 4 credits; 4 recitations; 1 two-hour laboratory period. Text: Henry and Morrison, *Feeds and Feeding.* *O. M. Nelson*

AH 352. **Feeds and Feeding.** An advanced course in the feeding of horses, beef cattle, sheep, and swine. Special study is made of the practices of the best stockmen, and of investigations carried on by the various experiment stations. Students desiring to take only such parts of the course as relate to certain kinds of livestock will be permitted to do so by arrangement with the head of the department.

Prerequisite: AH 351. Required in Animal Husbandry; junior or graduate year; second term; 5 credits; 5 recitations; 1 two-hour laboratory period. Text: Henry and Morrison, Feeds and Feeding.

E. L. Potter

AH 411. **Stock Judging IV.** Practical judging of all kinds of livestock, with occasional trips to fairs and stock farms. Judging teams for the Pacific International Stock Show are chosen largely from among the members of this class.

Prerequisites: At least four credits in stock judging. Required in Animal Husbandry; senior or graduate year; first term; 4 credits; 5 two-hour laboratory periods. Fee \$0.25.

E. L. Potter

AH 421. **Livestock Practice.** Laboratory practice in such work as dipping, dehorning, hoof trimming, shearing, horse training, and other common operations of the stock farm.

Required in Animal Husbandry; senior or graduate year; first term; 1 credit; 1 three-hour laboratory period. (Note: The department reserves the right to limit the number of students in this course.) Fee \$0.50.

O. M. Nelson

AH 422. **Livestock Practice.** A continuation of AH 421.

Required in Animal Husbandry; senior or graduate year; third term; 2 credits; 2 three-hour laboratory periods. Fee \$1.00.

O. M. Nelson

AH 441. **Animal Breeding.** A series of lectures dealing with the application of the principles of genetics to animal breeding and with the methods and practices of the leading livestock breeders.

Prerequisite: ZP 351. Required in Animal Husbandry; senior or graduate year; second term; 1 credit; 1 lecture.

E. L. Potter

AH 445. **Pedigree Study.** A laboratory study of the blood lines of the various breeds of livestock. Each student is expected to select one or two breeds as the basis for special study rather than to attempt to cover all breeds.

Elective in Animal Husbandry; senior or graduate year; each term; credits and hours to be arranged.

B. W. Rodenwold

AH 455. **Abridged Feeds and Feeding.** A condensed course in the feeding of beef cattle, sheep, hogs, and horses, with special reference to principles of nutrition and farm practice. While brief, this course is complete in itself.

Prerequisite: AH 221. Elective to juniors and seniors in Agriculture except those majoring in Animal Husbandry; third term; 4 credits; 4 recitations; 1 two-hour laboratory period. Text: Henry and Morrison, Abridged Feeds and Feeding.

A. W. Oliver, O. M. Nelson

AH 459. **Pork Production.** Feeding and management of hogs with special reference to dairy farm conditions.

Prerequisite: AH 351. Elective in Dairy Husbandry; junior or senior year; first term; 3 credits; 3 recitations; 1 two-hour laboratory period. *A. W. Oliver*

AH 461. **Livestock Economics.** An advanced course in management, dealing particularly with economic and financial phases of livestock production.

Prerequisite: AH 352. Required in Animal Husbandry; senior or graduate year; third term; 3 credits; 3 recitations. *E. L. Potter*

AH 471. **Meats.** A study of meats of all classes of meat animals, covering butchering, location of and cutting of standard and retail cuts, judging meat raw and cooked, economics of meat production, sanitation and inspection, abbatoirs, packing houses, and retail markets.

Elective in Animal Husbandry; senior or graduate year; second term; 2 credits; 2 three-hour laboratory periods. *A. W. Oliver*

AH 475. **Meats.** Same as AH 471 eliminating butchering.

Elective in Home Economics; second or third term; 1 credit; 1 three-hour laboratory period. *A. W. Oliver*

AH 481. **Seminar.** Weekly meetings in which papers on animal husbandry subjects are read and discussed. These papers are prepared under the supervision of the department, although considerable latitude is allowed in selection of subjects and manner of presentation.

Required in Animal Husbandry; junior or senior year; second term; 1 credit; 1 recitation. *E. L. Potter*

AH 482. **Seminar.** A continuation of AH 481.

Required in Animal Husbandry; junior or senior year; third term; 1 credit; 1 recitation. *E. L. Potter*

AH 491. **Investigative Work.** The student selects some topic for individual investigation by library methods or otherwise. The object is: first, to allow the student to study some particular subject in which he is especially interested; and second, to give him training in working out problems for himself, such as he will have to undertake after leaving college.

Elective in Animal Husbandry; senior year; any term; credits and hours to be arranged.

AH 691. **Graduate Research.** Graduate students are given opportunity to carry on research work along any lines desired. The

department is well equipped for graduate work along lines of experimental feeding of hogs, sheep, and beef cattle, livestock management, and all forms of library work with either experiment station or general livestock literature.

Elective in Animal Husbandry; graduate year; any term; credits and hours to be arranged. *E. L. Potter*

VOCATIONAL COURSES

AH 11. **Vocational Stock Judging.** A thorough drill in the judging of beef cattle, sheep, swine, and horses, accompanied by text-book and lecture work on types and breeds of livestock.

Required in Vocational Curriculum; second term; 5 credits; 1 recitation; 5 two-hour laboratory periods. Fee \$0.25. Text: Vaughan, Types and Market Classes of Live Stock. *E. B. Osborn*

AH 21. **Feeding and Management.** Practical details of the feeding, care, and management of all kinds of livestock with special reference to practices in the West.

Required in Vocational Curriculum; second term; 5 credits; 4 recitations; 2 two-hour laboratory periods. Fee \$1.00. Text: Potter, Western Live Stock Management. *B. W. Rodenwold*

DAIRY HUSBANDRY

There are approximately 23,000,000 dairy cows in the United States at the present time. It is estimated that one-sixth of the food supply of the nation is derived from milk and its products. As the population of the country becomes more congested an increasing proportion of the animal food of the country will come from this source. Dairying is one of the most important agricultural industries of Oregon and the Pacific Northwest. Climatic conditions especially adapt this region to successful dairying. The department offers courses training the student in the main phases of the dairy industry. The student has an opportunity to specialize in either production or manufacturing lines of work.

Equipment. The department has a well-equipped creamery and cheese-factory laboratory. The creamery is operated under commercial conditions at all times and the cheese factory is so operated when a sufficient local supply of milk is available. There is a herd of about 100 head of pure-bred dairy cattle available for instructional and experimental purposes.

COLLEGIATE COURSES

DH 200. Elements of Dairying. Fundamental principles and correct practices of modern dairying; testing of milk and cream; principles of buttermaking; operation of farm separators:

Prerequisite: Ch 103. Required in Agriculture; sophomore year; each term; 4 credits; 3 lectures; 2 two-hour laboratory periods. Fee \$4.00. Deposit \$2.00. Reference texts: Stocking, Manual of Milk Products. Eckles and Warren, Farm Dairying.

H. N. Colman

DH 204. Advanced Testing. Theory and practice of the various tests used to determine the composition of milk, cream, butter, cheese, and condensed milk in factories; tests for adulterants and preservatives; methods of standardizing testing solutions. This course is prerequisite to the dairy manufacturing subjects.

Prerequisite: DH 200. Required in Dairy Husbandry; elective in Agriculture; junior or senior year; first term (or optional in sophomore year, third term); 2 credits; 1 lecture; 1 two-hour laboratory period. Fee \$3.00. Deposit \$2.00. Reference texts: Farrington and Woll, Testing Milk and Cream. Van Slyke, Modern Methods

V. D. Chappell

DH 301. Market Milk. To train for the production of market milk and for work in city milk plants and as milk inspectors. Distribution problem of the small town and city; methods of buying,

standardizing, and distributing milk from the point of view of the plant owner or manager.

Prerequisite: DH 204. Required in Dairy Husbandry; third term; 3 credits; 2 lectures; 1 two-hour laboratory period. Fee \$2.00. Deposit \$1.00. Reference text: Parker, City Milk Supply.

H. N. Colman

DH 302, 303. **Commercial Buttermaking.** This subject is taught from the point of view of the inside management of the creamery. The instruction includes the theory and practice of buttermaking and the operation of creamery equipment.

Prerequisite: DH 204. Required in Dairy Husbandry; first and second terms; 3 credits each term; 2 lectures; 1 two-hour laboratory period. Fee \$3.00. Deposit \$2.00. Text: Hunziker, The Butter Industry.

V. D. Chappell

DH 304. **Dairy Products Judging.** Judging of butter, cheese, and milk with score cards; discussion of defects. Students from this class are selected to participate in intercollegiate judging contests.

Elective; first term; 1 credit; several laboratory periods a week. Fee \$2.00.

V. D. Chappell

DH 351. **Judging Dairy Cattle.** The correlation of the form of dairy cattle with milk production; gross breed characteristics; comparative judging, terminology of the show ring, and fitting for show.

Prerequisite: AH 111. Required in Dairy Husbandry (junior or senior year; optional in sophomore year); third term; 3 credits; 3 two-hour laboratory periods. Fee \$0.50.

R. C. Jones

DH 352. **Dairy Herd Management.** History and characteristics of the breeds of dairy cattle and their adaptability to various conditions; the selection of a breed; development of a herd; keeping of records; raising calves and heifers; the principles of feeding dairy cattle.

Prerequisite: AH 351. Required in Dairy Husbandry; elective in Agriculture; second term; junior year; 3 credits; 3 lectures.

P. M. Brandt

DH 401. **Cheesemaking.** Theory and practice of cheesemaking; manufacture of Cheddar cheese; practice in the manufacture of the common soft types, including cottage, Neufchatel, club, and Swiss; the fundamental scientific principles of chemistry and bacteriology involved; judging cheese.

Prerequisite: DH 204. Required in Dairy Husbandry; elective in Agriculture; senior year; second term; 4 credits; 2 lectures; 1 eight-hour laboratory period. Fee \$3.00. Deposit \$2.00. Text: Thom and Fiske, The Book of Cheese.

V. D. Chappell

DH 402. Ice-cream and Condensed Milk. Science and practice of the manufacture and sale of ice-creams and ices; manufacture of condensed milk; emphasis on the relation of these industries to each other and to the dairy industry in general.

Prerequisite: DH 204. Elective; senior year; third term; 3 credits; 2 lectures; 1 two-hour laboratory period. Fee \$4.00. Text: Frandsen and Markham, *Manufacture of Ice-creams and Ices*.

V. D. Chappell

DH 403. Factory Organization and Management. Taught from the standpoint of the factory owner or manager, correlating all the practices taught in factory methods with the problem of factory management. Leaks, efficiency, selling, etc.

Elective; senior year; first term; 4 credits; 3 lectures; 1 laboratory period. Fee \$1.00.

V. D. Chappell

DH 451. Dairy Judging Team. To train students for participation in intercollegiate dairy cattle judging contests.

Prerequisite: DH 351. Elective; first term; 2 credits; several laboratory periods a week and short trips to nearby farms. Fee \$0.50.

R. C. Jones

DH 452. Breeding Dairy Cattle. The application of the principles of genetics to the breeding of dairy cattle; selecting breeding animals; planning the breeding policy of a herd; study of pedigrees.

Required in Dairy Husbandry; elective in Agriculture; senior year; second term; 3 credits; 3 lectures. Fee \$0.50. Reference text: Mumford, *The Breeding of Animals*.

R. C. Jones

DH 453. Milk Production. A further study of feeding for milk production; more detailed study of various feeding standards and recent feeding investigations; special problems.

Prerequisite: DH 352. Required in Dairy Husbandry; elective in Agriculture; senior year; third term; 3 credits; 3 lectures.

P. M. Brandt

DH 480. Seminar. The object of this course is to train the student to do independent work and to develop the spirit of research. Each student prepares papers and discussions on recent scientific work.

For senior and graduate students; 1 credit; 1 recitation.

P. M. Brandt

DH 490, 491, 492. Special Studies. Students who have demonstrated their ability to do independent work may pursue special studies along various lines of investigation. This may be under the supervision of various members of the staff. Credit to be arranged.

P. M. Brandt, V. D. Chappell, R. C. Jones

DH 691, 692, 693. **Research.** Graduate students who desire to pursue advanced work may take up problems which they are qualified to study. Credit to be arranged.

P. M. Brandt, V. D. Chappell, R. C. Jones

VOCATIONAL COURSES

DH 11. **Buttermaking.** The principles of creamery buttermaking; construction, management, and care of the creamery; a comparison of the various methods commonly used in the manufacture of butter in creameries; practice in sampling and grading cream; pasteurization and ripening of cream; churning and packing butter.

Required in Dairy Manufactures Short Course; 5 credits; 3 lectures; 3 four-hour laboratory periods. Fee \$2.00.

V. D. Chappell

DH 12. **Cheesemaking.** The commercial manufacture of Cheddar cheese, covering the process in detail; a study of other varieties of cheese; factory management and construction; practice in making Cheddar and other cheeses; records kept of the different operations to note their effect on the finished products.

Required in Dairy Manufactures Short Course; 3 credits; 3 lectures; 1 six-hour laboratory period. Fee \$1.00.

V. D. Chappell, L. B. Zeimer

DH 13. **Ice-cream Making.** The preparation of mixes for various frozen products by different formulas; freezing, packing, and sale of frozen products.

Required in Dairy Manufactures Short Course; 2 credits; 2 lectures; 1 three-hour laboratory period. Fee \$1.00. *V. D. Chappell*

DH 14. **Factory Management.** A discussion of the problems of the business management of a creamery. A help to the man who is a creamery manager.

Required in Dairy Manufactures Short Course; 2 credits; 2 lectures. *V. D. Chappell*

DH 15. **Creamery Tests.** Advanced work in the use of the Babcock test; short cuts and conveniences for rapid and efficient testing; rapid tests for adulterants and preservatives; curd, acidity, and sediment tests.

Required in Dairy Manufactures Short Course; 1 credit; 1 lecture; 1 two-hour laboratory period. Fee \$1.00.

V. D. Chappell

DH 20. **Farm Dairying.** The history and development of the dairy breeds and their adaptability to various economic conditions;

how to manage a dairy herd as a part of the operations on a general farm; selection of the cows and herd sire; calf raising; keeping records of the herd; and feeding for milk production.

Required in Vocational curriculum in Horticulture; 3 credits; 2 lectures; 1 two-hour laboratory period.

H. N. Colman

FARM CROPS

This department deals with the problems of production, improvement, marketing, manufacture, and uses of each of the field crops produced for food, forage, textile, and special purposes. The purpose of the work is primarily to teach students scientific, practical, and economical methods of crop production and improvement that may be put into actual use on the farm. In addition the courses are so arranged that men may fit themselves for civil service positions in agronomy, forage crops, grain standardization, plant breeding, crop marketing, etc., or for experiment station, extension, or teaching work. The object is to turn out men with a broad training on general lines and well finished in Farm Crops. Considerable flexibility in electives is allowed in order to meet special needs of individual students.

Numerous Farm Crops graduates are occupying technical positions involving considerable responsibility. The field is a large one and deals principally with well-known and staple crops that are constantly in use and in demand. The work is closely associated with the daily food supply and is of importance to all students of Agriculture, whether seeking a salaried position or expecting to engage in the operation or management of a farm.

Equipment. The department has excellent recitation rooms and well-equipped laboratories. The Experiment Station plots offer excellent opportunities for field study and make possible extensive collection of valuable material for class work. A large collection of the best books, periodicals, etc., dealing with the subject, is available. The Oregon Agricultural College is excellently equipped for grain grading and inspection work; the new crop inspection course is a marked improvement over anything heretofore offered.

COLLEGIATE COURSES

FC 100. Crop Production. Fundamental principles of economic crop production; storage, marketing, and uses of leading cereal, forage, and special field crops; production costs; methods of improvement; crop rotations; and weed control methods. A course of foundation principles, prerequisite to all Farm Crops courses in the degree curriculum except FC 351 and 361.

Required in Agriculture; freshman year; any term; 5 credits; 5 lectures; 1 recitation; 1 two-hour laboratory period. Fee \$0.75. Text: Montgomery, *Productive Farm Crops*.

G. R. Hyslop, C. C. Ruth, J. R. Nevius

FC 231. Forage Crops and Root Crops. The production, handling, storage, marketing, and uses of forage; reseeding and care of range; development and maintenance of pasture; silage and hay making; soiling crop rotations; root-crop production; cost comparison of different crops.

Elective in Agriculture; sophomore or junior year; third term; 3 credits; 3 lectures; 1 recitation. Fee \$0.50. Text: Piper, *Forage Crops*.
G. R. Hyslop

FC 311. Cereal Production. A thorough study of the production and uses of cereals and allied grains from seed to consumer; varieties; distribution; adaptability; best production methods; markets; manufacture and use of wheat, corn, oats, rye, barley, flax, buckwheat, and grain sorghums; laboratory studies; cereal judging; seed quality; effect of treatment on seed, quality of grain, and grain products; studies of material in the field. The course is suited to cereal specialists, grain growers, general farmers, and those preparing for civil service work in agronomy, grain investigation, grain supervision, and inspection work and for operators of elevators, warehouses, and mills.

Elective in Agriculture; junior year; first term; 5 credits; 4 recitations; 2 two-hour laboratory periods. Fee \$0.75. Texts: Carleton, *Small Grains*. Montgomery, *The Corn Crop*. *C. C. Ruth*

FC 314. Potato Growing. Potato production; improvement; storage; cost; marketing; distribution; uses; experimental work; varietal studies and identification; judging and scoring.

Elective in Agriculture; junior or senior year; second term; 2 credits; 1 lecture; 1 recitation; 1 two-hour laboratory period. Fee \$0.50.
J. R. Nevius

FC 341. Crop Improvement. Practical improvement of farm crops as to quality and yield; field selection; variety testing; head, hill, and ear-to-row methods; multiplication; pure-seed production; hybridization and fundamental plant-breeding laws applicable to practical crop improvement; laboratory and field work. Important for seed-production specialists, experimental workers, and candidates for civil service positions in agronomy, forage crop, or potato work.

Elective in Agriculture; junior year; third term; 5 credits; 4 lectures; 1 three-hour laboratory period. Fee \$0.75. *C. C. Ruth*

FC 351. Seed Testing. A study in seed identification and germination; seed legislation; standard methods of seed testing; seed grades and standards. A course for students preparing for private, state, or Federal seed-testing work. Men and women having a good knowledge of systematic Botany and some knowledge of seed production may take this course.

Prerequisite or companion course: FC 432. Elective in Agriculture, Home Economics, and Commerce; junior or senior year; second term; 2 credits; 2 three-hour laboratory periods. Fee \$0.75.

J. R. Nevius

FC 361. Weed Eradication. Lectures and reference work on weed types and their habits of growth; weed legislation; practical methods of prevention, control, and eradication; special attention to noxious, persistent, perennial, and poisonous weeds of ranch and range.

Elective in Agriculture; junior or senior year; third term; 2 credits; 2 lectures.

J. R. Nevius

FC 411. Crop Efficiency. The production, storage, and marketing of farm crops; comparison of methods leading to cheaper and more efficient production; analysis of net results; crop adaptability and its relation to substitutes and competing markets; relation of preparatory methods to returns; sequence of crops as it affects yield, quality, and profits of succeeding crops; organization and operation of cropping systems and crop rotations; flexible cropping systems; crop specialization, extremes, and fads; amendments as they affect yield, quality, and profits of specific crops; systems of crop storage, handling and use on farm and for market; grade and standard fixation, making the most of grades and market customs; factors determining when to sell; state, national, and international regulations dealing with transportation, inspection, and marketing of farm crops; export and import regulations; preparation of crops for shipment; loading cars; weather data; protection of shipments; crop statistics, their value and use; disposal of crop by-products and other problems affecting successful production.

Required in Farm Crops; elective to others in Agriculture; senior year; third term; 5 credits; 5 lectures. Fee \$0.50.

G. R. Hyslop

FC 414, 415, 416. Advanced Crop Work. Lectures or laboratory work, or both, to groups of students desiring additional work along special lines of crop production not treated fully in other courses, or for students desiring to carry on advanced work or investigation beyond that outlined in undergraduate courses. Suggested topics are the following; others may be given should occasion arise: (a) Production and disposition of sugar beets. (b) Production and disposition of hops. (c) Production and disposition of fiber flax. (d) Production and disposition of tobacco. (e) Special work in experimental methods. (f) Cover crops. (g) Seed cleaning and handling. Individual students desiring this work may be assigned to some practical problem involving experimental or research work and the preparation of a thesis.

Elective in Agriculture; senior year; three terms; 3 to 5 credits each term. Fee to be arranged. *G. R. Hyslop*

FC 421. **Crop Inspection.** The inspection, grading, and valuation of cereals, forage, potatoes, beans, seeds, stock feeds, and miscellaneous agricultural commodities according to Federal, state, and other adopted standards; theory and practice of grade fixation and application. A valuable course for people buying or selling agricultural commodities or engaging in inspection work, fitting men for state and Federal positions as grain supervisors, samplers, and inspectors, and teaching farmers, warehousemen, millers, and others correct methods in valuation of agricultural commodities.

Elective in Agriculture; senior year; second term; 5 credits; 3 lectures; 3 two-hour laboratory periods. Fee \$1.00.

C. C. Ruth, J. R. Nevius

FC 432. **Seed Production.** Principles and special methods of production, distribution, and use of seed crops of grasses, alfalfa, clover, and other forage legumes; field beans, horse beans, soy beans, peas, and other food legumes, and other special seed crops. Seed inspection, seed certification, and seed legislation.

Elective in Agriculture; senior year; first term; 3 credits; 2 lectures; 1 recitation; 1 two-hour laboratory period. Fee \$0.75.

G. R. Hyslop

FC 441. **Advanced Crop Breeding.** An advanced course dealing with the theory and technique of breeding field crops; transmission of characters; hybridization; variability and its measurement; behavior of characters of specific crops. This course is especially for students expecting to make a business of seed production and improvement and for those wishing to enter Federal or experiment station work in crops.

Elective in Agriculture; senior year; first term; 3 credits; 3 recitations. Fee \$0.50.

C. C. Ruth

FC 691, 692, 693. **Graduate Work.** Candidates for advanced degrees majoring in Farm Crops are expected to complete from 24 to 32 credits of work on some specific problem of a practical nature, requiring careful research work. Results of laboratory and field work, together with a study of the literature of the subject must be embodied in a suitable thesis.

Elective in Agriculture; graduate year; three terms; credits and fees to be arranged.

G. R. Hyslop

VOCATIONAL COURSES

FC 10. **General Farm Crops.** Practical production, improvement, and marketing of farm crops for grain, forage, cover, and special

purposes. A brief course combining the practical features of cereals, forage crops, and seed production, with special attention to north-western conditions.

Required in Vocational Curriculum; first term; 5 credits; 3 lectures; 2 laboratory periods. Fee \$0.75. Text: Wilson and Warburton, *Field Crops*. *J. R. Nevius*

FC 11. **General Farm Crops.** Lectures for horticultural students. Same as FC 10, except laboratory omitted.

Required in Vocational Curriculum in Horticulture; third term; 3 credits; 3 lectures. Fee \$0.25. Text: Wilson and Warburton, *Field Crops*. *J. R. Nevius*

FC 13. **Crop Marketing, Inspection, and Valuation.** Grading and marketing grain, hay, potatoes, seeds, feeding stuffs, mixed feeds, and miscellaneous agricultural commodities; crop and feed valuation. A course for men desiring to know crop values or wishing to become grain samplers, state inspectors, or grain graders and testers for commercial firms. (Given only to groups of ten or more students.)

Elective to Vocational students; second term; 5 credits; 3 lectures; 2 laboratory periods. Fee \$1.00. *G. R. Hyslop, J. R. Nevius*

FARM MANAGEMENT

Farm Management deals with the organization, equipment, and operation of the farm as a business enterprise. Its aim is to correlate and synchronize the operations in the various phases of production on the farm in such a way as to result in a smoothly-running, efficient plant from which maximum returns may be obtained. The courses in Farm Management are designed to give the student a broad, well-rounded training in all the phases of Agriculture that will prepare him for successful production, with emphasis laid upon those studies which will fit him best for successful management of the farm. They also prepare students for professional work as farm managers, county agriculturists, extension specialists, farm appraisers, instructional and investigational workers, etc.

Equipment. The Farm Management laboratory and seminar room are provided with drafting tables and instruments, surveying instruments, original data and record sheets, lantern slides and charts, and a complete periodical and bulletin reference library. Investigational work carried on in many different parts of the State offers the advanced student excellent opportunities for field work.

COLLEGIATE COURSES

FMg 302. Farm Management. The underlying principles of successful farm management and the major factors affecting the labor income; farming as a business; value of the farm living; types of farming; adaptation of type to region; selection and purchase of the farm; capital investment and distribution; use of credit; size of business; quality and diversity of business; farm leases and rental methods; man and horse labor efficiency; farm equipment costs and duty; farm and farmstead layout and building arrangements; cropping systems and crop rotations on different types of farms; maintenance of soil fertility as a factor in farm management; cost of production and efficient production practices; use of farm records and accounts; marketing in relation to farm management; study of typical successful and unsuccessful farms; getting started in the farming business. Short field trips. Advanced Farm Management may be taken accompanying this course.

Required in Agriculture; junior year; second term; 4 credits; 3 lectures; 1 two-hour laboratory period. Fee \$1.00. *H. D. Scudder*

FMg 303. Farm Management. A continuation of FMg 302 in which the minor factors in successful farm management are discussed.

Prerequisite: FMg 302. Elective; junior year; third term; 3 credits; 2 lectures; 1 two-hour laboratory period. Fee \$0.50.

H. D. Scudder, C. Wilkes

FMg 304. Farm Management Field Course. A course for students specializing in Farm Management. Practical application of the principles of Farm Management through direct study and analysis in the field of some of the most successful farms in the State; training in regular farm-management survey work. In the summer of the junior year the students registered in this course, accompanied by the instructor, spend four or five weeks in the field in representative sections of the State, devoting about one week to each section. The days are spent in the company of the farm owner in study of his farm and its methods, a complete record being taken; in the evenings this record is analyzed. Camp equipment is provided and field camp maintained throughout the period, the student paying only his living and traveling expenses.

Prerequisite: FMg 302. Elective; junior year; summer term; 8 credits; field work.

H. D. Scudder, C. Wilkes

FMg 322, 323, 422, 423. Farm Management Seminar. Junior, senior, and graduate students majoring in Farm Management meet together in seminar work. The class is organized and conducted by the students, constituting their technical association in Farm Management. Discussion of investigational methods and results; inquiry into opportunity and requirements for professional and practical work in Farm Management; presentation of management methods by successful farmers in the State, etc. Each year a three-days' field trip is taken to successful farms.

Required in Farm Management; junior year; second and third terms; $\frac{1}{2}$ credit each term; fortnightly meetings.

H. D. Scudder

FMg 411. Farm Organization. Application of the principles of Farm Management to the organization of the individual farm; methods of measuring the efficiency of any given farm; analysis of farms to determine weaknesses and possibilities of improvement; procedure followed in organizing a farm business; discussion of the standards used as a basis for farm planning; detailed study of efficiency practices in production and operation; practice in planning production programs, cropping systems, and fertility balances; labor programs; livestock, machinery, and building equipment; methods of increasing productive business; methods of financing, etc. Field trips. This course gives preparation for the actual field problems undertaken in Advanced Farm Management.

Prerequisite: FMg 302. Elective; senior year; first term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$0.50.

H. D. Scudder, C. Wilkes

FMg 412. **Semi-arid Farm Management.** A study of the farm-management problems of the dry farmer and irrigation farmer; preparation of management plans dealing with forms of production, profitable enterprises, fertility rotations, equipment, labor distribution, marketing, etc., as adapted to semi-arid conditions; when possible, a field excursion into the dry farming and irrigated sections of Oregon for farm survey work.

Prerequisite: FMg 302. Elective; senior year; second term; 2 credits; 2 lectures. *H. D. Scudder*

FMg 422, 423. **Farm Management Seminar.** See FMg 322, 323, 422, 423.

FMg 433. **Enterprise Costs and Profits.** A study of production costs and enterprise profits; methods of securing agricultural costs; tabulation, analysis, and interpretation of cost data; discussion of forms of complete cost records and enterprise records adapted to different types of farming; study of actual production, operation, maintenance, and management costs under Oregon conditions and comparative costs and profits of the chief farm enterprises in this State; relations of price to cost and profits; analyses of new or questionable enterprises; field study of prominent and profitable farm enterprises.

Prerequisite: FMg 302. Elective; senior year; third term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$0.50.

H. D. Scudder, C. Wilkes

FMg 441, 442, 443. **Advanced Farm Management.** Field work on individual problems such as preparation of detailed organization and management plans for specific farms; efficiency testing of groups of farms; field studies and costs and profits of specific farm enterprises; field study of specific farm practices and their efficiency; studies in equipment and building improvement; farm management factor studies, etc., directed and reviewed through weekly round-table discussions.

Prerequisite: FMg 302. Elective; senior year; three terms; 3 to 5 credits each term; all laboratory and field work. Fee \$1.00 each term.

H. D. Scudder, C. Wilkes

FMg 452. **Land Utilization.** Land resources of the State and of the United States and utilization of the same; methods of land clearing and costs; land values; types of farming adapted to different regions; the land settlement problem and settlement methods and opportunities in this and other countries; land tenure in the United States and in Oregon with comparisons of ownership and tenantry.

Prerequisite: FMg 302. Elective; senior year; second term; 2 credits; 2 lectures. *H. D. Scudder*

FMg 463. Accredited Farm Work. Senior or graduate students who have taken the regular four-year major in Farm Management or its equivalent and who have previous good records of practical experience in farming and the necessary personal qualifications as to character, industry, etc., have opportunity in this course as workmen on "accredited farms"—farms operated by progressive and successful farmers—both for actual experience and to study the organization, management, production practices, costs of production, methods of solution of special problems, etc., on these farms, making written reports, and where advisable, preparing reorganization plans. Work is inspected by the instructor and reported upon by the farm owner. College credit given the student depends upon extent and quality of practical work and written reports.

Prerequisite: FMg 302. Elective; senior or graduate year; 8 to 16 credits. *H. D. Scudder*

FMg 601, 602, 603. Graduate Work. Under this head all graduate work in Farm Management is registered. Graduate work in this field may be along either of two lines.

A. Research. For the student who wishes to prepare himself for investigational and instructional or extension work in Farm Management. With the development of Farm Management throughout the country as a distinct science or branch of Agriculture, many opportunities are opening up for men in instructional or investigational or extension work in both state and Federal service. Problems of wide diversity and great practical interest offer attractive thesis subjects. The minor courses required in connection with research problems are taken in residence one or more terms and the major work in residence or in the field.

B. Practical Management. For the student who wishes to prepare himself more thoroughly as a farm manager, a sufficient period registered in the course FMg 463, Accredited Farm Work, combined with several terms' work in residence, is suggested.

Elective; graduate year; first term; credits to be arranged.

H. D. Scudder

VOCATIONAL COURSES

FMg 12. Practical Farm Management. The principles and factors in Farm Management that are most important to the practical farmer are discussed in this course. The laboratory work deals with the solution of the home-farm problems.

Vocational Curriculum; any term; 3 credits; 2 recitations; 1 laboratory period. Fee \$0.50.

C. Wilkes

FMg 13. **Farm Planning and Organization.** Practical application of the principles learned in the preceding course, to the planning or replanning of the student's home farm or an assigned farm. Plans include the selection of the most profitable industries and laying out of the farm and farmstead to give maximum efficiency in operation, and provide in detail development programs of the farm as to improvements, equipment, livestock production, cropping plan, fertility, labor, financial programs, etc.

Vocational Curriculum; third term; 2 credits; 2 laboratory periods. Fee \$0.50.

C. Wilkes

FARM MECHANICS

The purpose and scope of the work in Farm Mechanics are indicated fully in the description of courses given below.

Equipment. A large equipment of the most up-to-date farm machinery is loaned the institution by the leading implement dealers of the Northwest, so that the student has constantly before him and is working with and studying the very best farm machines of all types. The large, well-lighted gas-engine laboratory contains many different makes of gas engines, trucks and tractors, and accessories, such as sectional carburetors, magnetos, and lubricators. In addition to this equipment is a considerable selection of grain-cleaning and crushing machines, farm lighting plants, pumps, rams, and water supply equipment.

The laboratory is also equipped with two large brakes for the testing of tractors, dynamometers for determining the draft of the field machines and the draw-bar horse-power of tractors, a gas and steam indicator for determining the efficiency of farm engines and tractors, and an electric motor and watt meter, so that the student may become familiar with the power requirements of belt-driven farm machines. Many tractors of the latest design are available for use of the students in the laboratory and in the field.

COLLEGIATE COURSES

FM 111. Farm Motors. The principle, construction, operation, and adjustment of farm motors and accessories, carburetors, magnetos, ignition, governing, cooling, and lubricating systems, fuels and oils, testing, timing, and trouble hunting of farm gas motors, such as are used in the tractor, truck, automobile, and stationary outfits; adaptation of electricity to farm uses.

Elective; sophomore year; any term; 3 credits; 3 two-hour laboratory and recitation periods. Fee \$2.00. *W. J. Gilmore*

FM 112. Farm Tractors and Farm Trucks. Detailed study and operation of the gas, steam, and electric motor, including the stationary gas and steam engine, tractor, truck, and automobile; indicated, brake, and draw-bar horse-power tests of tractors; tractor operation in the field.

Prerequisite: FM 111. Freshman or sophomore year; any term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$3.00.

A. E. Jensen

FM 121. Farm Motor and Farm Implement Repair. Repair of tractor, truck, and automobile motors and farm implements.

Prerequisite: FM 111. Elective; freshman or sophomore year; any term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$3.00. *A. E. Jensen*

FM 131. **Farm Implements.** The latest horse- and tractor-drawn farm implements, plows and their adjustments and hitches, cultivating machinery, seeding and planting machines, hay and grain cutting machines, and manure spreaders; rope tying and splicing; fences and roads; setting up and adjustment of machines.

Elective; sophomore, junior, or senior year; any term; 2 credits; 2 two-hour laboratory and recitation periods. Fee \$1.00.

W. J. Gilmore

FM 141. **General Farm Repairs.** Babbitting and fitting bearings, soldering, belt lacing, key fitting, pipe fittings, and pipe cutting and fitting, welding and tempering, repairing, adjusting, and painting farm machines.

Elective; freshman or sophomore year; any term; 2 credits; 1 recitation; 1 three-hour laboratory period. Fee \$2.00.

A. E. Jensen

FM 280. **Graphic Methods.** Recitation and drawing periods. Plotting curves, making charts, and various drawings, designed to give training with drawing instruments and to familiarize the Agriculture student with the reading of plans. Prerequisite to FM 380.

Elective; sophomore year; any term; 2 credits; 1 lecture; 1 three-hour laboratory period. Fee \$0.50.

FM 332. **Crop Handling Equipment.** A detail study of all machines used in handling of crops in field, on the farm, and in storage; fanning-mills; grain graders and crushers; grain separators and combines; farm elevators; racks; balers; silage cutters. This course is especially designed for students in Crop Production, and for students of the grain farms who desire a knowledge of adjusting and handling of the thresher and combine.

Elective; junior or senior year; second or third term; 2 credits; 1 lecture; 1 three-hour laboratory period. Fee \$1.50.

W. J. Gilmore

FM 341. **Concrete Construction.** The selection, proportioning, mixing, and placing of concrete for floors, sidewalks, machine bases, and foundations. The building of forms is a part of the work.

Elective; junior or senior year; third term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$2.00. *A. E. Brandt*

FM 351. **Farm Conveniences.** Installation of farm water-supply systems, and farm electric-lighting plants; pipe fitting and plumbing; meter reading; wells, pumps, hydraulic rams, and storage

systems. Open to either men or women who desire a knowledge of modern farm conveniences with a view to installation.

Elective; junior or senior year; first or third term; 2 credits; 1 recitation; 1 three-hour laboratory period. Fee \$2.00.

A. E. Brandt

FM 361. **Land Clearing.** Comparison of methods, leading to the cheapest and most efficient method of removing stumps, trees, logs, brush, and rock from land; lectures, recitations, laboratory exercises, and field demonstrations, dealing with dynamite and explosives, hand stump-pullers, horse pullers; tractor and donkey engine for removing stumps, char pitting, stump burning, and chemical treatment; what is being done in other states; clearing and leveling of sage brush and swamp lands.

Elective; junior or senior year; third term; 2 credits; 1 recitation; 1 three-hour laboratory period. Fee \$2.00. *A. E. Brandt*

FM 371. **Dairy Mechanics.** Proportioning and mixing of concrete for floors, sidewalks, and machine bases; study and operation of gas engines and accessories; pumps, steam boilers, and steam engines; firing and operating steam engines; flue repair; babbitting; soldering; pipe fitting; line shafts and belting. For students in Dairying who wish a course in mechanics adapted to the needs of the dairy student.

Elective; junior or senior year; first term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$2.00. *A. E. Jensen*

FM 372. **Orchard Machinery.** Construction, operation, and adjustment of orchard machinery, such as gas engine, pump, tillage and seeding implements; orchard plowing and cultivation; demonstration of tractors for orchard work. Intended for students in Horticulture.

Elective; junior or senior year; third term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$2.00.

W. J. Gilmore, A. E. Jensen

FM 373. **Irrigation Farm Mechanics.** This course is intended for students interested in farm irrigation, and is designed for junior and senior students in Soils. It deals with the farm gas and electric motor, pumps, concrete construction, and the study and installation of farm pumping plants.

Elective; junior or senior year; third term; 3 credits; 1 recitation; 2 laboratory periods. Fee \$2.00.

W. J. Gilmore

FM 380. **Farm Structures.** Planning of all farm buildings, fences, etc.; building materials; foundations; construction; lighting; ventilating; heating; costs; convenience of farm structures; plans

and specifications; design and construction of farm racks, tanks, troughs, etc.

Prerequisite: FM 280. Elective; junior or senior year; any term; 1 recitation; 2 three-hour laboratory periods. Fee \$2.00.

FM 381. **Advanced Farm Mechanics.** This course is designed primarily to fit students for positions with tractor and implement companies as demonstrators or as service men. It is also of much value to those who intend to operate farm power equipment. Recommended to students having had FM 111, 112, and 121 and who feel need of further study of farm power equipment. Detail study of design of farm power equipment; practical field work; tractor and truck service. (A continuation of FM 112 and 121.)

Prerequisite: FM 111, 112, 121. Elective; any year; any term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$3.00.

A. E. Jensen

VOCATIONAL COURSES

FM 10. **General Farm Mechanics.** A vocational course in farm mechanics dealing with farm power machinery, farm implements, farm conveniences, farm concrete construction, and repair of farm equipment.

Required in Agriculture Vocational Curriculum; third term; 5 credits; 2 recitations; 3 three-hour laboratory periods. Fee \$3.00.

W. J. Gilmore, A. E. Brandt, A. E. Jensen

FM 11. **Tractor and Tractor Implements.** Selection, operation, care, adjustment, and repair of farm engines, tractors, and tractor implements. This course is intended to train students as tractor operators.

Farm Mechanics Short Course; second term; 15 credits; 4 recitations; 11 three-hour laboratory periods. Fee \$20.00.

FM 12. **Gas Engines and Tractors.** A two-week course in farm engines and farm tractors taken up from the standpoint of a farmer who intends to purchase and operate a tractor, and feels the need of practical training. This course will be given in December, January, February, and March. Fee \$5.00.

FM 71. **Creamery Mechanics.** A presentation of the topics included under the course FM 371, adapted to needs of students in the Vocational Curriculum.

Elective in Agriculture Vocational Curriculum; any term; 3 credits; 3 three-hour laboratory periods. Fee \$2.00. *A. E. Jensen*

HORTICULTURE

The work in Horticulture includes instruction in Pomology, Olericulture, Floriculture, Landscape Gardening, and School Gardening. In these courses the student is first thoroughly grounded in the fundamentals, and is then allowed to specialize as he desires. He may thus fit himself for experiment station or government work or prepare for the many lines of horticultural business.

The required work for students specializing in Horticulture gives a thorough training in plant propagation, the general principles of orchard management and vegetable growing, floriculture, and landscape gardening.

The courses consist of lectures, reference reading, field exercises, and laboratory work. Much stress is placed upon the practical phases of all the work. In all courses horticultural truths are illustrated by practice, whenever possible. Students are given field and laboratory exercises in all such operations as planting, seeding, budding, grafting, cultivating, thinning, pruning, harvesting, and spraying.

Equipment. The Horticultural wing of Agricultural Hall, Horticultural Products Building, the greenhouses, extensive orchards and gardens, the large campus containing good plant material, an ammonia-gas cold storage plant, and a very good library are at the service of the department. The laboratories are well equipped for giving instruction in spraying, plant propagation, and fruit packing, vegetable grading and crating, and systematic pomology. There are large lecture rooms, a drafting room, photography rooms, and a Horticultural Museum.

The Horticultural Products Building is the first of its kind in the United States. It is a two-story brick building, with full basement, in which work can be done on a commercial scale. There is a large canning room equipped with paring and slicing machinery, sanitary preparation table, exhaust boxes, and a retort of 1,300-can capacity; a juice room equipped with hydraulic presses, settling vats, pumps, multiple drum, silver-lined filters, and bottling machine; and cold storage rooms to aid in the manufacture of fruit juices, ciders, and vinegar; a jelly and jam room equipped with machinery such as pulper and finisher, steam-jacketed kettles, and other machinery used in the manufacture of jellies, jams, glace, and maraschinos; and a commercial evaporating room containing a three-tunnel drier, a commercial kiln, and special preparation machinery to aid in the preparation of evaporated and dehydrated products.

In addition to the extensive orchards and gardens of the College, the region is well provided with orchards, canneries, etc., which can be used in the laboratory work.

The department of Horticulture is well equipped for research work. The laboratories, the greenhouses, the experimental plots, and an excellent research library of scientific books and periodicals, facilitate effective investigation in the field of Horticulture.

COLLEGIATE COURSES

Hrt 100. Elements of Horticulture. This course is to give a student enough training in horticulture to enable him to care for the home orchard as well as to understand some of the fundamentals of commercial orcharding. The course deals with such subjects as choosing the orchard; purchasing of nursery stock; planting the orchard; tillage; spraying; intercropping; and pruning.

Required in Agriculture; freshman year; any term; 5 credits; 2 lectures; 2 recitations; 2 two-hour laboratory periods. Fee \$1.00. Text: Sears, *Productive Orchardring*.

W. S. Brown, L. P. Wilcox, and assistants

POMOLOGY

Hrt 311. Practical Pomology. A continuation of Hrt 100. Principles and practices of fruit growing; frost fighting; thinning; fertilizers; pollination; economics of fruit-farm management, etc.

Required in Pomology; junior year; first term; 3 credits; 2 lectures; 2 recitations.

W. S. Brown

Hrt 312. Sub-tropical Pomology. This course takes up in detail the problems concerning the growing and marketing of such sub-tropical fruits as oranges, figs, olives, pineapples, etc.

Elective in Agriculture; junior or senior year; first term; 3 credits; 2 lectures; 2 recitations.

H. Hartman

Hrt 313. Pruning Principles and Practices. Thorough training in the fundamental principles underlying pruning; including bud study; tree building; maintaining the vigor of trees; rejuvenation.

Required in Pomology; junior year; second term; 3 credits; 2 lectures; 2 recitations. Text: Kaene, *Principles and Practices of Pruning*.

W. S. Brown

Hrt 314, 315. Orchard Practice. Laboratory work in which the student has actual practice in regular orchard and packing-house operations. The work includes tree planting, pruning, preparation of spray solutions, study of spray machinery, orchard spraying, orchard heating, and the picking, grading, packing, and judging of

fruits. These courses are required for those taking Hrt 311 and 313.

Required in Pomology; junior year; first and second terms; 1 credit each term; 1 three-hour laboratory period. Fee \$1.00 each term.

L. P. Wilcox and assistants

Hrt 318. **Sprays and Spraying.** Compatability of spray mixtures; proper mixing of materials; development of spraying; dusts and dusting; examination of simple and complex spray machinery and spray accessories; spraying under field conditions.

Elective; junior year; third term; 2 credits; 1 lecture; 1 three-hour laboratory period. Fee \$1.50. *H. Hartman and assistant*

Hrt 361. **History and Literature of Horticulture.** A study of the literature and history of Horticulture from the time of the Egyptians to modern times.

Required in Pomology; junior year; third term; 3 credits; 2 lectures; 2 recitations. *H. Hartman*

Hrt 410. **Commercial Pomology.** The problems of handling fruit, including the picking, grading, and packing of fruits; study of the problems of transportation, storage, distribution, and marketing; planning of buildings for packing and storing of fruit.

Required in Pomology; senior year; second term; 5 credits; 3 lectures; 2 recitations; 1 two-hour laboratory period. *H. Hartman*

Hrt 412. **Systematic Pomology.** Principles underlying pomological nomenclature and variety description, classification, and adaptation; critical study of many varieties of fruits; influence of environment upon behavior of fruit trees and the development of their products; the more important fruit groups and their inter-relationships.

Required in Pomology; senior year; first term; 5 credits; 2 recitations; 4 two-hour laboratory periods. Fee \$3.00. *H. Hartman*

Hrt 414. **Viticulture.** Problems pertaining to the growing, harvesting, and marketing of both American and European types of grapes; soils; locations; pruning; training; harvesting; grading; packing; storage, etc.

Elective in Agriculture; junior or senior year; first term; 3 credits; 2 lectures; 2 recitations. Text: Hedrick, American Grape Growing. *H. Hartman*

Hrt 415. **Small Fruit Culture.** Problems connected with the growing, harvesting, and marketing of such fruits as the strawberry, currant, gooseberry, raspberry, blackberry, loganberry, and cranberry.

Elective in Agriculture; junior or senior year; second term; 3 credits; 1 lecture; 3 recitations. Text: Sears, Productive Small Fruit Culture. *L. P. Wilcox*

Hrt 416. **Nut Culture.** Methods of growing, harvesting, curing, and marketing such nut crops as the walnut, filbert, almond, and pecan. Detailed laboratory study of the leading varieties of these nuts.

Elective in Agriculture; junior or senior year; second term; 3 credits; 2 lectures; 1 recitation; 1 two-hour laboratory period. Fee \$1.00. *H. Hartman*

Hrt 417. **Orchard Practices and Management.** Trips are taken to fruit farms near Corvallis and other places in the State. Studies made of practices in pruning, spraying, cultivation, marketing, etc. The management of fruit farms is gone into carefully. Maps and plans for fruit farms are made. Students registered only by appointment with the head of the department. Schedule by arrangement in four-hour periods on Saturday mornings.

Prerequisites: Hrt 314, 315, 316. Elective in Agriculture; senior year; third term; 3 credits; 1 recitation; 1 four-hour laboratory period. Fee according to cost of trips.

Hrt 418. **Applied Plant Genetics.** History and development of plant breeding with horticultural plants; methods used by breeders; clonal selection; varieties of plants; evolution and development of species and varieties of horticultural importance; selection; hybridization; graft hybrids; bud selection; disease resistance, etc.

Prerequisite: ZP 351. Elective in Agriculture; junior or senior year; third term; three credits; 2 lectures; 1 recitation; 1 two-hour laboratory period. Fee \$1.50. *H. Hartman*

Hrt 481, 482, 483. **Seminar.** Courses for senior and graduate students in Horticulture. Study is made of some of the advanced problems. Articles from the leading magazines on horticultural subjects, as well as experiment station and Government publications, are reviewed.

Elective in Agriculture; required in Horticulture; senior year; three terms; 1 credit each term; 1 one-hour recitation.

Hrt 619. **Advanced Plant Genetics.** Special problems in plant breeding for graduate students. *E. M. Harvey*

VEGETABLE GARDENING

Hrt 221. **Vegetable Growing.** Fundamental study of methods of vegetable growing; planting and care of a vegetable garden as an integral part of every farm home; preparation for advanced courses in vegetable growing.

Required in Horticulture; elective in Agriculture; sophomore year; third term; 2 credits; 1 lecture; 1 two-hour laboratory period. Fee \$0.50. Text: Green, Vegetable Gardening. *A. G. Bouquet*

Hrt 321. **Vegetable Seed Production.** The business of seed production is becoming yearly more important. The work offered in this course is designed both to enable the student to understand and practice methods used in contract seed production, and to acquaint him with the manner of improving for himself seed strains of vegetables grown for market or home use. Laboratory work consists of field practice in selection of stocks, harvesting, threshing, and cleaning seed, seed testing, etc.

Required in Vegetable Gardening; junior year; first term; 3 credits; 2 recitations, 1 two-hour laboratory period. Text: Brill, Farm Gardening and Seed Growing. *A. G. Bouquet*

Hrt 322. **Principles of Vegetable Gardening.** A continuation of Hrt 221. Problems of growers in field management of a commercial vegetable garden, including such subjects as vegetable soils, production of plants, distribution of crops, succession of crops, manures and fertilizers, methods of irrigation, spraying, etc.

Required in Vegetable Gardening; elective in Agriculture; junior year; second term; 3 credits; 2 recitations; 1 two-hour laboratory period. Texts: Watts, Vegetable Gardening. Corbett, Garden Farming. *A. G. Bouquet*

Hrt 323. **Practical Vegetable Gardening.** A continuation of Hrt 322. Study of methods used in the commercial production of vegetables for market; field and greenhouse work with lectures thoroughly to acquaint the student with proper methods and management; inspection of commercial testing grounds; trips to vegetable farms.

Required in Vegetable Gardening; junior year; third term; 3 credits; 2 recitations; 1 two-hour laboratory period. Text: Corbett, Garden Farming. *A. G. Bouquet*

Hrt 421, 422, 423. **Vegetable Forcing.** This work extends through the three terms of the college year, thus giving the student opportunity to observe fall, winter, and spring conditions as they relate to crops grown under glass. Lectures during the fall term deal largely with the principles of vegetable greenhouse types and management, including relation of forcing vegetables to outdoor vegetable farming, types of vegetable greenhouses as related to crops produced, soil composition, fertilizing materials, systems of soil cropping, use of frames for fall and winter vegetables, soil sterilization, irrigation of vegetables under glass, etc. Laboratory work in the greenhouse enables the student to observe the application of these principles.

During the second term crop production and marketing are covered, especially as related to those vegetables suited to conditions of the winter and early spring months, such as leaf lettuce, spinach, cauliflower, French endive, rhubarb, asparagus, parsley, mushrooms, etc. The value of these various crops is considered from the standpoint of their usefulness and profit to the vegetable grower. Methods of marketing each crop are studied.

During the spring term problems incident to the forcing of tomatoes and cucumbers are studied. Attention is paid to commercial vegetable production. Lectures and recitations cover such subjects as varieties, variety characteristics, distances of planting, pruning and training methods, pollination studies, methods of mulching and watering, control of insects and diseases, harvesting, grading, and marketing.

Required in Vegetable Gardening; senior year; three terms; 2 credits each term; 1 recitation; 1 two-hour laboratory period. Text: Watts, Vegetable Forcing. *A. G. Bouquet*

Hrt 424. **Systematic Olericulture.** Descriptions, nomenclature, and classifications of vegetables; a sufficient number of varieties of each vegetable studied so that the student may become acquainted with the more important groups of horticultural varieties; exercises in displaying and judging vegetables; assigned readings.

Required in Vegetable Gardening; senior year; first term; 1 credit; 1 two-hour laboratory period. *A. G. Bouquet*

Hrt 425, 426, 427. **Commercial Truck Gardening.** In the fall term, methods of field harvesting, grading, packing, and marketing are considered, as well as problems of growers in handling vegetables from field to market. Attention during the winter term is particularly given to methods of car loading, transportation, and storage of truck crops shipped to distant markets, such as onions, cabbage, broccoli, tomatoes, onion sets, melons, etc. The student has actual practice in field work. The spring term course is devoted to a study of advanced problems in vegetable gardening principally concerning methods of economic production for the open market and for canneries and dehydrators. A general view of vegetable gardening is given. Assigned readings.

Required in Vegetable Gardening; senior year; three terms; 3 credits each term; 2 recitations; 1 two-hour laboratory period.

A. G. Bouquet

LANDSCAPE GARDENING

Hrt 231. **Landscape Gardening.** This course is designed to fit the needs of all students. Definite principles controlling layout and

organization of different classes of property are developed. Enough drafting is required so that the student can express himself in a satisfactory manner. Study is made of problems in improvement work on home grounds, rural or urban, private estates, and small parks.

Required in Horticulture; sophomore year; first term; 3 credits; 2 two-hour drafting periods; 2 lectures; 1 recitation. *A. L. Peck*

Hrt 331, 332, 333. **Plant Materials.** This work is intended to familiarize the student with trees, shrubs, vines, and perennials; their peculiar habits of growth, requirements, and care. Special attention is given to foliage, color, form, adaptation, hardiness, and effects when grouped. Students are advised to take Hrt 231 as a preliminary.

Elective in Agriculture; junior year; three terms; 3 credits each term; 3 two-hour laboratory periods. *A. L. Peck*

Hrt 337. **History and Literature of Landscape Gardening.** Designed to give the student a good idea of the development of the art, and to bring him in touch with the literature, past and current, that is related to the subject.

Required in Landscape Gardening; junior year; first term; 3 credits; 3 recitations. *A. L. Peck*

Hrt 431. **Theory and Design.** A study of the best works of prominent landscape architects, together with a wide range of collateral reading. Private estates, public parks, and playgrounds, boulevards, and cemeteries are carefully studied. Reports, such as those of park boards and landscape architects, are studied.

Prerequisites: Hrt 231, 331, 332, 333. Required in Landscape Gardening; elective in Agriculture; senior year; first term; 4 credits; 1 recitation; 3 three-hour laboratory periods. *A. L. Peck*

Hrt 432. **Theory and Design.** A continuation of Hrt 431, in which a large portion of the time is devoted to preparation of planting plans. Outside time is required for collateral reading.

Prerequisite: Hrt 431. Required in Landscape Gardening; senior year; second term; 4 credits; 12 two-hour laboratory periods. *A. L. Peck*

Hrt 434, 435. **Field Practice.** Courses in practical problems brought in from the field. The student makes surveys, does the engineering work incidental to the solving of the problem, makes general plans, planting plans, grading plans, details, etc.

Prerequisites: Hrt 231, 331, 332, 333. Required in Landscape Gardening; senior year; second and third terms; 4 credits; 12 two-hour laboratory periods. *A. L. Peck*

Hrt 437. **Town Planning.** The underlying ideas of municipal, town, and village improvement; literature and reports studied; town problems discussed; methods of procedure in town improvement worked out.

Required in Landscape Gardening; senior year; third term; 4 credits; 1 recitation; 9 one-hour laboratory periods.

FLORICULTURE

Hrt 241. **Plant Propagation and Greenhouse Practice.** This course aims to meet the needs of students who expect to be engaged in agricultural research requiring an understanding of greenhouse practices in the handling of soils, water, sunlight, heat, and ventilation. Methods of propagating plant life are studied. Students are required to grow their own stock in the houses and to care for it throughout the term. Limited to twenty-five students.

Elective in Agriculture; sophomore year; second term; 3 credits; 1 lecture; 1 recitation; 2 two-hour practicums. Fee \$1.50.

A. L. Peck

Hrt 341. **Greenhouse Construction.** A course especially for students specializing in Floriculture and Vegetable Gardening. The problems connected with the building of greenhouses, hotbeds, and cold-frames; selection of materials; the various systems of heating and ventilating; value of the various types of buildings; lectures and laboratory exercises in greenhouses and drafting room.

Elective in Agriculture; junior year; second term; 4 credits; 1 lecture; 9 one-hour laboratory periods.

Hrt 441, 442, 443. **Greenhouse Crops.** Actual work in the greenhouse. Propagation; culture; soils; ventilation; watering; heating; as wide a range of experience as possible in growing of plants used in the florist trade.

Prerequisite: Hrt 241. Elective in Agriculture; senior year; three terms; 3 credits each term; 9 hours laboratory work.

A. L. Peck

HORTICULTURAL PRODUCTS

Horticultural products work consists of seven courses (Hrt 351, 352, 353, 371, 451, 452, 453), each course a continuation of the preceding one. These courses include training in canning, evaporation, vinegar manufacture, loganberry-juice manufacture; and the preparation of special products, such as butters, jams, jellies, glacé, maraschino, and crushed fruits. The work is conducted on a factory

basis, and is handled according to the available products of each season. Instruction in canning embraces grading, blanching, exhausting, capping, sterilization (both open and in retort), manufacture of sirups and brines, labeling and storage. Both fruits and vegetables are handled. In evaporation, instruction is given with prunes, peaches, apricots, apples, pears, and vegetables, both kiln and tunnel driers being used. Emphasis is placed on grading products, processing, and packing. Special work is offered with loganberry and grape juice, unfermented cider, and vinegars. Instruction is given in manufacture of butter, jellies, glacé, maraschino, and crushed fruit.

Students desiring to major in Horticultural Products are requested to take courses in Canning Bacteriology and Advanced Chemistry.

Hrt 351. Commercial Canning of Fruits and Vegetables. This course is designed for the student wishing to enter the commercial field. It covers a working knowledge of the methods used where fruits and vegetables are canned extensively.

Required in Horticultural Products; first term; 3 credits; 1 lecture; 1 recitation; 1 four-hour laboratory period. Fee \$5.00.

E. H. Wiegand

Hrt 352, 353. Commercial Methods. Study and installation of canning machinery and methods of manufacture of canned goods.

Prerequisites: Hrt 351, 371. Required in Horticultural Products; junior or senior year; second and third terms; 3 credits each term; 1 lecture; 1 recitation; 1 four-hour laboratory period. Fee \$5.00 each term.

E. H. Wiegand

Hrt 371. Dehydration of Fruits and Vegetables. This course is especially for students majoring in Horticulture. Actual drying of fruits and vegetables is done, along with the study of the common types of driers and principles of dehydration.

Required in Horticultural Products; junior or senior year; first term; 3 credits; 1 lecture; 1 recitation; 1 four-hour laboratory period. Fee \$5.00.

E. H. Wiegand

Hrt 451. Commercial Jam, Jelly, and Juice Manufacture. This course gives the student practice in the manufacture of jams, jellies, fruit juices, and vinegars.

Prerequisite: Hrt 352. Required in Horticultural Products; senior year; first term; 3 credits; 1 lecture; 1 recitation; 1 four-hour laboratory period. Fee \$5.00.

E. H. Wiegand

Hrt 452, 453. Advanced Canning and Preserving. A continuation of Hrt 351, 352, and 353, giving the student advanced work in canning, covering preserves, conserves, candied and glacé fruits, and other fancy packs.

Required in Horticultural Products; senior year; second and third terms; 3 credits each term; 1 lecture; 1 recitation; 1 four-hour laboratory period. Fee \$5.00 each term. *E. H. Wiegand*

RESEARCH

Hrt 491, 492, 493. **Investigative Work for Seniors.** This work is offered for those seniors who are contemplating following college, experiment station, or Government work as a life career, and for those who desire practice in research technique. Problems are assigned which give experience in the laboratory, greenhouse, field, and library.

Elective in Agriculture; senior year; three terms; 3 credits; 2 lectures. *E. M. Harvey*

Hrt 494, 495, 496. **Methods of Research.** Conducted as a research round table, these courses give drill in making of briefs and outlines of research problems, methods of procedure in conducting investigative work, and the preparation of bulletins and reports. Research problems being studied by the department of Horticulture are taken up. Close study is made of research work presented in bulletins from other institutions.

Elective in Agriculture; senior or graduate year; three terms; 1 or 2 credits each term; 2 lectures. *E. M. Harvey*

Hrt 691, 692, 693. **Advanced Thesis and Research Work.** For graduate students only. Problems in Pomology, Vegetable Gardening, Landscape Gardening, Floriculture, Plant Breeding, as selected by student.

Elective in Agriculture; graduate year; three terms; 10 to 20 credits each term. *E. M. Harvey*

VOCATIONAL COURSES

Hrt 11, 12, 13. **Orchard Management.** This work aims to give as much practical instruction in Horticulture as can be consistently given in the time allowed to persons without uniform preparation for the work. Emphasis is laid continually on laboratory and field work. The work takes up the various phases of Horticulture from the cultivation of the orchard until the crop is harvested, and includes such subjects as harvesting, grading, packing, pruning, spraying, thinning, fruit setting, etc.

One-year Vocational Curriculum in Horticulture; three terms; 5 credits each term; 3 recitations; 3 two-hour laboratory periods. Fee \$1.50 each term. Text: Sears, Productive Orchardng.

C. E. Schuster and assistants

Hrt 21, 22, 23. **Vegetable Gardening.** The work given during the fall term consists largely of a study of the important varieties of vegetables; methods of harvesting, packing, and marketing fall and winter vegetables; manner of handling vegetables for storage; fall management of the vegetable garden; observations of methods of selecting stocks of biennial vegetables for seed; and saving seed of annual vegetables. Attention during the winter term is directed to principles of production of vegetable crops such as soil adaptability, selection of areas for certain vegetables, plans and methods of cropping, fertilizing materials and their application, value and methods of irrigation, field seeding, transplanting, etc. During the spring term study is made of methods of vegetable seedling production and actual methods of growing of all important vegetables. Attention is also given to greenhouse and frame crops which are grown to maturity during spring and summer. The texts are mimeographed notes and assigned references.

One-year Vocational Curriculum in Horticulture; three terms; 3 credits each term; 2 recitations; 1 two-hour laboratory period.

A. G. Bouquet

POULTRY HUSBANDRY

Poultry keeping is rapidly growing in importance as a definite part of every well-regulated system of diversified farming, and at the same time offers opportunity for profit-making as a specialized business. The climate of Oregon is particularly adapted to the successful raising of poultry.

Equipment. The equipment includes a five-acre tract of land and the two-story Poultry Building with laboratories for incubation, judging, killing, egg handling, and carpentry, equipped with appliances necessary for practical poultry keeping. Twenty different makes of incubators are available for student practice in incubation. There are twenty-four colony poultry houses of different types, three different types of commercial houses each of 200 birds capacity, and hatching and brood coops of various styles. Large flocks of Barred Plymouth Rocks and White Leghorns used in experimental breeding work are available for study, and there are pens of several other of the more common breeds and varieties, and individual specimens of 32 of the less common breeds, which are used for student study and practice. There are also sets of charts, lantern slides, motion pictures, and photographs, illustrating breeds of fowls, types of poultry houses, and equipment.

COLLEGIATE COURSES

PH 201. Practical Poultry Keeping. A brief course dealing with practical application of the principles of Poultry Husbandry to general farm conditions. An introductory course for those intending to specialize in this field, recommended also for those who wish a single, elementary course in Poultry Husbandry.

Optional in Agriculture; sophomore year; first term; 3 credits; 2 lectures or recitations; 1 two-hour laboratory period. Fee \$1.00. Text: Dryden, Poultry Breeding Management. *A. G. Lunn*

VM 309. Anatomy of the Fowl. Elective in Agriculture; required in Poultry Husbandry; 2 credits; 1 lecture or recitation; 1 laboratory period. (See courses in Veterinary Medicine.)

PH 311. Poultry Breeding, Breeds, and Judging. A study of breeds of poultry, their history and classification; principles and methods of breeding for different purposes; laboratory work in judging from fancy and utility standpoints.

Prerequisite: PH 201. Optional in Agriculture; required in Poultry Husbandry; junior year; first term; 4 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$1.00. Deposit \$1.00.

A. G. Lunn

PH 321. Incubation and Brooding. A study of the principles and practices involved in natural and artificial incubation and brooding; study of the egg and its development; laboratory work in actual running of incubators and brooders; opportunity given when possible for students to work out some definite problem.

Prerequisite: PH 201. Optional in Agriculture; required in Poultry Husbandry; junior year; second term; 4 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$1.50. Deposit \$1.00.

A. G. Lunn

PH 331. Poultry-house Design and Construction. A study of the principles of poultry-house designing; estimating the cost of buildings; studying building plans; practice in erecting, remodeling, and making appliances; excursions to neighboring farms.

Prerequisite: PH 201. Optional in Agriculture; required in Poultry Husbandry; junior year; third term; 4 credits; 2 recitations; 2 laboratory periods. Fee \$2.00. Deposit \$1.00.

A. G. Lunn

VM 351. Poultry Diseases. Elective in Agriculture; required in Poultry Husbandry; third term; 2 credits; 1 lecture or recitation; 2 laboratory periods. (See courses in Veterinary Medicine.)

PH 441. Poultry Feeding. A study of feeds suitable for poultry; principles and practice of feeding for egg production and fattening; feeding young and growing chicks; feeding appliances; the compounding of rations; actual practice in feeding a flock of hens.

Prerequisite: PH 201. Optional in Agriculture; required in Poultry Husbandry; senior year; first term; 4 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$1.00. Deposit \$1.00.

A. G. Lunn

PH 451. Marketing Poultry Products. Preparation of poultry and eggs for market; methods of storage and preservation; methods of marketing; laboratory work in killing, picking, grading, packing, and shipping poultry; testing, grading, packing, and storing eggs.

Prerequisite: PH 201. Optional in Agriculture; required in Poultry Husbandry; senior year; second term; 4 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$2.00. Deposit \$1.00.

A. G. Lunn

PH 461. Commercial Poultry Practice. Selection of the location, layout, and arrangement of buildings; study of records. Each student works out complete plans for the layout and management of a commercial poultry enterprise.

Prerequisites: PH 321, 331, 441, 451. Optional in Agriculture; required in Poultry Husbandry; senior year; third term; 4 credits;

2 recitations; 2 two-hour laboratory periods. Fee \$1.00. Deposit \$1.00.

A. G. Lunn

PH 481, 482, 483. **Seminar.** Discussion of Poultry literature and current problems of interest to the advanced student, including critical examination of research methods relating to poultry work. Frequent written reports are required.

Required in Poultry Husbandry; senior year; three terms; 1 credit; 1 meeting a week.

A. G. Lunn

PH 484, 485, 486. **Departmental Management.** For seniors majoring in Poultry Husbandry. Practical work in and about the poultry department, so arranged as to give the student practice and experience in college poultry plant management. Hours to be arranged with head of department.

Poultry Husbandry; senior year; three terms; 3 credits each term; 3 three-hour laboratory periods.

SOILS

The work in Soils includes soil physics, soil drainage, irrigation farming, dry farming, soil fertility, soil surveying, soil biology, and soil management. The purpose of the courses in Soils is to give the student thorough training in this important phase of agriculture, making him competent to manage a farm or preparing him for positions in state or Federal service. The wealth of Oregon rests in her soil and water resources, and their intelligent development, management, and preservation. With the further extension of state and Federal aid to reclamation, there will be a greater demand for men who have a knowledge of how most successfully and economically to use water which the engineer's canals and reservoirs provide. These men must know the best time, amount, and method of irrigation, and the effects of irrigation upon soils and crops. They should also know the relations between soils, soil waters, and drainage, and understand how to locate and construct drains and to treat or fertilize the soil so as to secure the highest possible efficiency for each unit of tiling employed.

Equipment. The Soils laboratories are equipped with apparatus for the complete study of the physical properties of soils and problems of soil management. Ample desk room, supplied with running water, gas, compressed air, and electricity, is available. Electric centrifuges and shakers, electric bridge for alkali testing, electric air baths, analytic and torsion balances, microscopes, blast lamps, aspirators, percolators, capillary tubes, mulch cylinders, soil sieves, scales, solution balance, compression filters, soil sampling tubes, moisture equivalent centrifuge, furnaces, hoods, etc., form a part of the equipment for the work in Soils. Soil surveying and mapping outfits, soil survey charts of the United States, and a collection of samples of the chief soil types of Oregon and the United States, are available. The soil preparation room is equipped with benches, soil-grinding and sifting machinery, and ample space for drying, preparation, and storage of large quantities of the different soil types used in the laboratories. For field work in Drainage and Irrigation, surveying instruments, tiles, and ditching tools, weirs, flumes, hook gauges, water-stage register, electric pumping plant, etc., are available. Weather-recording instruments of different kinds supply equipment for the course in Climatology. Laboratories fitted with desks, ovens, etc., afford opportunities for studies of the movement and retention of irrigation water in soil, the effects of irrigation upon soils and crops, the effect of tile drainage upon soils of different types, their rate of drainage, etc. On the College farm the students

build weirs, measure water, lay out distribution systems, make cement pipes for laterals, and test pumping machinery. On the drainage plots, the rate of discharge is measured and the effects of drains and soil conditions on water table are studied. The Exhibit Room is equipped with cases and racks for displays of soil sample collections, subsoils, hard-pans, soil analyses, soil colors, soil drainage and irrigation exhibits, etc. A well-stocked reference library is available. The Experiment Station farms at Corvallis and in other parts of the State, together with the cooperative trials in different counties, offer opportunity for field study of soil problems.

Research. The department of Soils is well equipped for offering research work. The experiment fields, soil tanks, laboratories, and library, and the plans and methods used in soil, irrigation, and drainage investigations offer valuable opportunities to graduate students. See courses Sls 601, 602, 603.

COLLEGIATE COURSES

Sls 201, 202. **Soils.** Origin, formation, and classification of soils; study of the physical properties of soil moisture, heat, and air; effects of tillage, drainage, and irrigation; plant foods and soil fertility; fertilizers; crop rotations; manures; acid and alkali soils.

Prerequisites: Ch 100, 101. Required in Agriculture; sophomore year; first and second terms; 3 credits each term; 2 lectures; 1 recitation; 1 three-hour laboratory period. Fee \$2.00 each term. Deposit \$2.00 each term. Text: Lyon, Fippin, and Buckman, *Soils*.

C. V. Rusek, E. F. Torgerson, W. W. Johnston

Sls 203. **Soil Drainage and Irrigation.** Principles of drainage and of irrigation; use of chain and level as applied to location and installation of tile drains or irrigation laterals; design of tile systems; their effect upon soils and crops; costs and benefits.

Required in Agriculture; sophomore year; third term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$2.00. Deposit \$1.00.

W. L. Powers, W. Cretcher

Sls 311. **Irrigation Farming.** Methods of obtaining, distributing, and conserving irrigation waters; handling of different crops under irrigation; costs and profits; duty of water in various districts of Oregon; water rights and irrigation codes; field and laboratory studies of irrigation qualities of different soils; laying out of irrigation systems.

Elective; junior year; first term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$1.00. Deposit \$1.00. Text: Widtsoe.

W. L. Powers, W. W. Johnston

Sls 312. Irrigation Farming Elective. Special course for Irrigation Engineering students or other students who cannot take the laboratory course in Irrigation Farming.

Elective; junior or senior year; first term; 2 credits; 2 recitations. *W. L. Powers*

Sls 314. Western Land and Water Laws. A brief history of the development of water laws. Homestead laws, water rights, and irrigation codes in the different states, particularly in the Northwest and Oregon; appropriation, adjudication, and administration of water; reclamation and other Government and state land acts affecting reclamation development; organization and administration of irrigation districts and projects; water users' associations, etc.; discussion of public questions relating to reclamation.

Elective; junior year; second term; 3 credits; 3 recitations. Text: Chandler, Elements of Western Water Law. *W. L. Powers*

Sls 317. Dry Farming. Advanced study of the subject of moisture conservation, special tillage methods and machinery, soil and climatic conditions, etc., in dry-farming regions, with particular reference to Oregon and northwestern states. (Given 1921-22 and alternate years.)

Prerequisite: Sls 211 or 215. Elective; junior or senior year; second term; 2 credits; 2 recitations. *W. L. Powers*

Sls 318. Land Drainage. Field study of road, soil, and sanitary drainage; actual surveying, laying out, drafting of plans, estimation of cost, and installation of drainage systems; preparation of a complete report of the organization of a drainage district.

Prerequisite: Sls 201. Elective; junior year; third term; 3 credits; 1 recitation; 2 three-hour laboratory periods (week end). Fee \$1.00. Deposit \$1.00. *W. L. Powers*

Sls 331. Climatology. Practical meteorology; observing and recording local weather and forecasting; a study of the climate of Oregon and the effect of climate upon agriculture. (Given alternate years.)

Elective; junior or senior year; second term; 2 credits; 1 recitation; 1 two-hour laboratory period. Fee \$1.00. Deposit \$1.00.

E. F. Torgerson

Sls 411. Irrigation Field Practice. This course aims to give practical knowledge of irrigation farming conditions. Careful records are kept of water used on different soils and crops and of the yield obtained from definite areas. This work may be done during the summer months in connection with duties as ditch rider or other field agent. A report is required and work is to be outlined with the instructor in advance.

Prerequisite: Sls 311. Elective; junior or senior year; any term; 2 to 4 credits.

W. L. Powers

Sls 414. **Advanced Irrigation.** Irrigation literature and methods of irrigation investigation; field and laboratory studies of irrigation experiments; calculation of depth of water applied and of the most economical production thereby secured; costs and profits connected with irrigation; analysis of data and preparation of a thesis. Field examinations are made, where possible, of some of the largest projects in the State.

Elective; senior year; first term; 3 credits. Fee \$0.50.

W. L. Powers, W. W. Johnston

Sls 417. **Irrigation Management.** A study of the operation and maintenance of irrigation systems; methods and records for water masters; control of agencies destructive to ditches; cost and durability of materials used in distribution of water on the farm; water rotations for different types of farming.

Elective; senior or graduate year; third term; 1 credit.

W. L. Powers

Sls 421. **Soil Physics.** Origin, formation, physical composition, and classification of soils; soil moisture, surface, tension, osmosis, capillarity, diffusion, aeration, temperature, and the resulting alteration in crop-producing power; influence of washing, drainage, and irrigation upon soils; laboratory determination and comparison of physical properties of various soil types; physical effect of mulches, rotations, and cropping; soil sampling and judging; mechanical analysis of soils.

Elective; senior year; first term; 5 credits; 3 recitations; 2 three-hour laboratory periods. Fee \$2.00. Deposit \$1.00. Texts: Mosier and Gustafson. O. A. C. Laboratory Manual.

W. L. Powers, E. F. Torgerson

Sls 422. **Soil Physics Elective.** Similar to Sls 421, but without laboratory work for Agricultural students unable to take the regular course in Soil Physics and for students in Irrigation Engineering.

Elective; senior year; first term; 3 credits; 3 recitations. Text: Mosier and Gustafson.

W. L. Powers

Sls 424. **Soil Fertility.** Advanced work in composition and values of fertilizers and barnyard and green manures; maintenance and improvement of fertility; effect of the various crops and different systems of farming upon the fertility of the soil; crop rotations and fertility in different sections of the State and the United States; field-plot and pot-culture investigations.

Prerequisite: Sls 421. Elective; senior year; second term; 5 credits; 3 recitations; 2 three-hour laboratory periods. Fee \$2.00. Deposit \$2.00. *C. V. Ruzek*

Sls 425. **Soil Fertility Lectures.** Same as Sls 424, except no laboratory work.

Elective; senior year; second term; 3 credits; 3 recitations. Fee \$0.50. *C. V. Ruzek*

Sls 427. **Soil Surveying.** For the advanced student who desires preparation for service at state experiment stations or in the Government Bureau of Soils. Study of the classification of soils and soil areas of the United States, of Oregon, and of the Northwest; much field work in making regular and completed soil surveys of assigned areas, with a report thereon.

Prerequisite: Sls 421 or 424. Elective; senior year; third term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$1.00. *E. F. Torgerson*

Sls 428. **Soil Management.** Occurrence, composition, characteristics, productivity, plant-food requirements, comparative values, and management of different soil types of Oregon.

Prerequisite: Sls 424. Elective; senior or graduate year; third term; 2 credits; 2 recitations. *W. L. Powers*

Sls 441, 442. **Advanced Soil Work.** The advanced student may study the various soil types of Oregon through mechanical analysis, and other physical tests; may undertake field work in soil surveying and mapping; or, through wire-basket, pot-culture, and field-plot tests, may determine the effects of various systems of cropping, or fertilizing, or of soil bacteria, upon soil fertility.

Prerequisites: Sls 411, 421. Elective; senior or graduate year; any term; 2 to 5 credits each term. Fee \$1.00 each term. Deposit \$2.00. *W. L. Powers, C. V. Ruzek*

Sls 451, 452. **Advanced Drainage or Irrigation Work.** Special problems in either subject, such as the drainage of alkali lands, drainage against seepage, study of water-table fluctuations, run-off, etc.; or field studies of the duty of water for a certain district, conservation of irrigation waters, effect of irrigation on soil moisture conditions, etc., as selected by the student.

Elective; senior year; any term; 2 to 5 credits each term. Fee \$0.50 each term. Deposit \$1.00. *W. L. Powers*

Sls 481. **Seminar.** Semi-weekly meetings, alternating with those of the Soils Improvement Club, at which papers on soils subjects are read and discussed. Papers are prepared under supervision of the department.

Required in Soils; junior or senior year; three terms; one-half credit each term. *W. L. Powers, C. V. Ruzek*

Sls 601, 602, 603. **Advanced Thesis and Research Work.** Courses for graduate students either as major or minor. Students may select problems in soil physics, analysis, surveying, fertility, irrigation, drainage, soil management, dry farming, or related subjects.

Elective; graduate students; three terms; 5 to 15 credits each term.

VOCATIONAL COURSES

Sls 50. **Farm Soils.** Brief history of origin of soils; fertility of soils; most valuable chemical constituents; their exhaustion and replenishment; most important physical factors; their deterioration and improvement; the physical components; their relative value and amounts in soil mixtures; practice in judging the chief soil types of Oregon; effects upon soils of tillage, manuring, crop rotation, drainage, and irrigation.

Vocational Curriculum; first term; 5 credits; 3 recitations; 2 two-hour laboratory periods. Fee \$1.00. Deposit \$1.00.

E. F. Torgerson

Sls 60. **Practical Farm Drainage.** The value of drainage, the methods and cost of installing drainage systems under different soil and land conditions, district drainage, etc.

Vocational Curriculum; third term; 3 credits; 2 recitations; 1 two-hour laboratory period. Fee \$1.00.

W. Cretcher

Sls 70. **Irrigation Farming Practices.** The most effective methods of handling irrigation waters; the different crops under irrigation, and the cost and profits thereof; organization as affecting water use and control in irrigated districts. (Offered provided six or more students register for the course.)

Elective in Vocational Curriculum; first term; 3 credits; 2 recitations; 1 two-hour laboratory period. Fee \$0.50. Text: Fortier, Use of Water in Irrigation.

D. Ritchie

Sls 80. **Dry-Farming Practices.** Methods of handling soils under dry-farming conditions; tillage; seeding; moisture control; usable water capacity of dry-farming soils; root systems of dry-land plants, etc. (Offered provided six or more students register for the course.)

Elective in Vocational Curriculum; second term; 2 credits; 2 recitations. Fee \$0.50.

W. L. Powers

VETERINARY MEDICINE

The object of the courses in Veterinary Medicine is to help fit the students for the successful handling of livestock. Comparative Anatomy and Comparative Physiology familiarize the student with the normal structures and functions of the animal body, thus laying a foundation for courses in judging, breeding, feeds and feeding, nutrition, and diseases of animals.

The work in diseases is taken up from the standpoint of the live-stock owner. The students learn to recognize diseases, to care for sick animals, and to prevent disease through proper methods of sanitation and management. The importance of quarantine, the different methods of control and eradication of disease, and the role of the stock owners in maintaining this work are considered.

Equipment. This department has its office, physiological laboratory, and lecture room on the second floor of the Dairy Building. Dissections, autopsies, and clinics are conducted in a suitably equipped Veterinary Clinic Building.

COLLEGIATE COURSES

VM 301. Comparative Anatomy. A laboratory course in the anatomy of domesticated animals. Special attention is given to the digestive systems of the horse and the cow; to the foot, the teeth, and the muscles of locomotion of the horse. The work includes complete dissection of the digestive, urinary, genital, and respiratory systems, and partial dissection of the circulatory, muscular, and nervous systems.

Prerequisite: ZP 130 or equivalent. Required in Animal Husbandry and in Dairy Husbandry; junior year; first term; 3 credits; 1 lecture; 3 two-hour laboratory periods. Fee \$1.00.

B. T. Simms, F. W. Miller, J. N. Shaw

VM 302. Comparative Anatomy. Continuation of VM 301.

Prerequisite: VM 301. Required in Animal Husbandry and in Dairy Husbandry; junior year; second term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$1.00.

B. T. Simms, F. W. Miller, J. N. Shaw

VM 309. Anatomy of the Fowl. A study of the structure of the body of the fowl.

Required in Poultry Husbandry; junior or senior year; second term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$1.00. Text: Kaupp, *Anatomy of the Domestic Fowl*. *J. N. Shaw*

VM 321. **Comparative Physiology.** Study of the functions of the body; the physiological processes of all domestic animals, with emphasis on the horse and the cow.

Prerequisites: VM 302, Chemistry or equivalent. Required in Animal Husbandry and Dairy Husbandry; junior year; third term; 3 credits; 3 lectures; 1 two-hour laboratory period. Fee \$1.00.

B. T. Simms, J. N. Shaw

VM 341. **Diseases of Livestock.** A one-term course for students specializing in the Plant Group. The more common diseases, with methods of prevention and control, are considered. The laboratory work consists of a free clinic.

Elective; junior or senior year; first term; 4 credits; 2 lectures; 2 recitations; 1 two-hour laboratory period. Fee \$0.50. Text: Craig, Common Diseases of Domesticated Animals.

J. N. Shaw, B. T. Simms

VM 351. **Diseases of Poultry.** The parasitic, infectious, and non-infectious diseases of poultry; emphasis upon methods of prevention and control of the parasitic and infectious diseases; observations of autopsies, methods of diagnosis, and treatment of fowls.

Required in Poultry Husbandry; junior or senior year; third term; 3 credits; 3 recitations; 1 two-hour laboratory period. Fee \$0.50. Text: Pearl, Diseases of Poultry.

J. N. Shaw

VM 441, 442, 443. **Diseases of Livestock.** The parasitic, infectious, and noninfectious diseases of domesticated animals. The laboratory work consists of a free clinic. Students assist in handling the medical cases, operating on the surgical cases, and caring for animals in the hospital.

Prerequisites: VM 302, 321, or equivalent. Required in Animal Husbandry and Dairy Husbandry; senior year; three terms; 3 credits each term; 2 recitations; 1 two-hour laboratory period. Fee \$0.50 each term. Text: U. S. D. A. Diseases of Horses.

B. T. Simms, F. W. Miller

VOCATIONAL COURSE

VM 41. **Diseases of Domestic Animals.** The study of the common diseases of livestock, veterinary sanitation, and veterinary hygiene.

Required in Vocational Curriculum; third term; 5 credits; 3 recitations; 1 lecture; 2 two-hour laboratory periods. Fee \$0.50. Text: Hadley, The Horse in Health and Disease.

F. W. Miller

SCHOOL OF COMMERCE

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.
JOHN ANDREW BEXELL, A.M., Dean of the School of Commerce; Professor of Business Administration.
MABEL ROBINSON, Secretary of the School of Commerce.

Business Administration

JOHN ANDREW BEXELL, A.M., Professor of Business Administration.
ERWIN BERTRAN LEMON, B.S., Associate Professor of Business Administration.
FRANK LESLIE ROBINSON, Instructor in Accounting.
LOCHE HARDEMAN MARDIS, B.S., Instructor in Accounting.
LEE CLEVELAND BALL, Instructor in Accounting.

Economics and Sociology

HECTOR MACPHERSON, Ph.D., Professor of Economics and Sociology; Director of the Bureau of Organization and Markets.
NEWEL HOWLAND COMISH, M.S., Professor of Economics and Sociology.
WILLIAM HENRY DREESEN, Ph.D., Assistant Professor of Economics and Sociology.
EDWARD BECKER MITTELMAN, Ph.D., Instructor in Economics and Sociology.
JAMES FRANKLIN PAGE, M.A., Instructor in Economics and Sociology.
MERCY JANE GAIN, B.S., Assistant in Economics and Sociology.

Office Training

HERBERT TOWNSEND VANCE, Professor of Office Training and Business Education.
ETHA MABEL MAGINNIS, Assistant Professor of Office Training.
LILLIAN BURNS, B.S., Instructor in Office Training.
BERTHA ALICE WHILLOCK, B.S., Instructor in Office Training.
MINNIE CLARE KOOPMAN, B.S., Instructor in Office Training.
MINNIE DEMOTTE FRICK, Instructor in Office Training.
RUTH NORMAN PINE, B.S., Instructor in Office Training.
ALTHA OPAL COOPER, B.S., Instructor in Office Training.
ELYNORE DOROTHEA SWEENEY, B.S., Instructor in Office Training.

Political Science

ULYSSES GRANT DUBACH, Ph.D., Professor of Political Science.
FRANK ABBOTT MAGRUDER, Ph.D., Associate Professor of Political Science.
ROY RENO HEWITT, Ph.B., M.A., LL.B., Assistant Professor of Political Science.

*Service Departments **

MAHLON ELLWOOD SMITH, Ph.D., Dean of the Service Departments,
Director of the Summer Session.

FREDERICK BERCHTOLD, A.M., Professor of English Language and Literature.

JOHN B. HORNER, A.M., Litt.D., Professor of History.

LOUIS BACH, M.A., Professor of Modern Languages.

GEORGE FRANCIS SYKES, A.M., Professor of Zoology and Physiology.

NATHAN FASTEN, Ph.D., Professor of Zoology and Physiology.

CHARLES BUREN MITCHELL, A.B., A.M., Professor of Public Speaking.

FREDERICK CHARLES KENT, A.B., Associate Professor of Mathematics.

WILLIAM HENRY ELLISON, Ph.D., Associate Professor of History.

NICHOLAS TARTAR, B.S., Assistant Professor of Mathematics.

SIGURD HARLAN PETERSON, B.A., Assistant Professor of English.

GERTRUDE EWING McELFRESH, A.B., Instructor in English.

VALDA EVELYN SMITH, A.B., Instructor in Chemistry.

MELISSA MARGARET MARTIN, A.B., B.S., Instructor in Modern Languages.

McKINLEY HELM, B.S., Instructor in English.

ETHEL TAYLOR, A.B., Instructor in Modern Languages.

GEORGE REUBEN VARNEY, A.B., D.D., Instructor in Public Speaking.

CHARLES WESLEY VANDERWALKER, A.B., Instructor in Modern Languages.

CARL NAETHER, B.A., Instructor in English.

*Other Schools and Departments **

GRANT ADELBERT COVELL, Dean of the School of Engineering and
Mechanic Arts; Professor of Mechanical Engineering.

MARY ELIZA FAWCETT, A.M., Dean of Women.

HENRY DESBOROUGH SCUDDER, B.S., Professor of Farm Management.

GEORGE ROBERT HYSLOP, B.S., Professor of Farm Crops.

WILBUR LOUIS POWERS, M.S., Professor of Soils.

JESSE FRANKLIN BRUMBAUGH, A.M., Litt.D., Professor of Psychology.

FRANCIS LAWRENCE SNOW, Professor of Industrial Journalism.

ALMA GRACE JOHNSON, B.S., Professor of Household Administration.

WALTER SHELDON BROWN, A.B., M.S., Professor of Horticulture.

JOSEPH KEPNER PARTELLO, Lieutenant Colonel of Infantry, U. S. Army.

Professor of Military Science and Tactics; Commandant of Cadets.

EDNA AGNES COCKS, A.M., Professor of Physical Education for Women.

RICHARD BURR RUTHERFORD, A.B., Professor of Physical Education for
Men.

LUCY MAY LEWIS, A.B., B.L.S., Librarian.

* Here are listed members of other faculties offering courses open to students in Commerce.

CHARLES JARVIS MCINTOSH, B.S., Assistant Professor of Industrial Journalism.

CHARLES CURTIS RUTH, M.S., Assistant Professor of Farm Crops.

BENJAMIN WILLIAM RODENWOLD, B.S., Assistant Professor of Animal Husbandry.

EARL OSBURN, D.V.M., Assistant Professor of Animal Husbandry.

RAY BOALS, B.S., Assistant Professor of Mechanical Engineering.

MORRIS WENK, A.B., EE., Assistant Professor of Mechanical Engineering.

MARTIN LOUIS GRANNING, Instructor in Auto Mechanics.

MARY VAN KIRK, Instructor in Household Art.

EMMA SKINNER WELD, Ph.B., Instructor in Household Art.

DONALD KENNETH MEREEEN, Instructor in Industrial Arts.

ALFRED WEAVER OLIVER, B.S., Instructor in Animal Husbandry.

SARA WATT PRENTISS, B.S., Instructor in Household Science.

WILLIAM WATERS JOHNSTON, B.S., Field Agent in Soils.

JOHN RICHARD NEVIUS, B.S., Instructor in Farm Crops.

HOWARD NOTSON COLMAN, A.B., B.Sc., Instructor in Dairy Husbandry.

Special Lecturers

About twenty special lecturers, chiefly prominent business and professional men throughout the State, deliver addresses during the year. The lectures, which are usually held under the auspices of the O. A. C. Commercial Club, are open to all students of the institution.

Curricula. The School of Commerce offers two distinct courses of study; namely, (1) a four-year curriculum leading to the degree of Bachelor of Science in Commerce; (2) a two-year vocational curriculum leading to a Certificate. The practical side of every subject is emphasized, the constant aim being to train the student for service and efficiency.

Admission. Detailed statements of entrance requirements, routine of registration, etc., are given in the special bulletin on "General Information," which is furnished on application. Requirements for admission to the curricula of the School of Commerce are as follows:

Degree curriculum: Applicants must be at least sixteen years of age and must have completed 15 units of work in a secondary school recognized as standard, these units to include (a) at least 3 units of English and 1 unit each of Elementary Algebra and Plane Geometry; (b) 2 additional units of English, Mathematics, Foreign Languages, Laboratory Sciences, and History (including Civics); and (c) 8 units selected from any subjects credited toward graduation by standard high schools of Oregon

Graduate curriculum (in Agricultural Economics and Rural Sociology): Applicants must be holders of the baccalaureate degree from the Oregon Agricultural College or other college of equal rank. It is strongly recommended that students wishing to pursue this

work follow the Agriculture Curriculum during their first two years of undergraduate study, and elect a minor in Agricultural Economics and Rural Sociology during their junior and senior years. Students taking the regular Commerce Curriculum, who contemplate studying for the Master's degree in Agricultural Economics and Rural Sociology, should begin in their sophomore year to take certain courses in Agriculture chosen in consultation with the deans of the schools of Agriculture and Commerce.

Vocational curriculum: Applicants must have completed a common school course and be at least 18 years of age. Applicants over 21 years of age who have not completed a common school course may be admitted in individual cases on approval of the Dean.

The Degree Curriculum. In the degree curriculum lower classmen may emphasize accounting, salesmanship, or secretarial studies, the latter including stenography and office practice. In the junior year, the student may further specialize in one of the following: (1) Business Administration, (2) Economics and Sociology, (3) Political Science, (4) Secretarial Studies, or (5) Markets and Salesmanship. Instead of the above options, a liberal range of general electives is offered, so that in the junior or senior year, the men may elect courses in Agriculture, Forestry, or Industrial Arts, while the women may elect courses in Home Economics.

Graduate Curriculum in Agricultural Economics and Rural Sociology. Course sequences will be outlined leading to the degree of Master of Science in Agricultural Economics and Rural Sociology.

The aim is to make the graduate work in this field fit students for positions as county agriculturists, positions in the United States Department of Agriculture, especially in the Office of Markets and Rural Organization, teachers in colleges and rural high schools, and for rural leadership in general. Students are also prepared for civil service examinations in this general field.

The Vocational Curriculum. This curriculum has been arranged primarily for the benefit of persons who have been unable to finish high school. The only entrance requirements are that the applicant must have had an eighth grade education, or its equivalent, and must be at least eighteen years of age. The student may emphasize book-keeping and business methods, or stenography and typewriting; or he may have an opportunity to take both groups of courses.

Departments. For administrative purposes, the School of Commerce is organized into four distinct departments: (1) Business Administration, (2) Economics and Sociology, (3) Political Science, and (4) Office Training and Stenography.

Requirements for Graduation in the School of Commerce. For the bachelor's degree in the School of Commerce, a total of 207 college

credits must be completed by men and 192 credits by women. It is expected that the suggested schedule as listed elsewhere for this School will be closely followed. Excepting those who major in Marketing of Agricultural Products (as outlined on page 146), students must complete before graduation credits as indicated in the following table:

| | Credits |
|---|------------|
| Business Administration or Office Training..... | 41 |
| Economics and Sociology..... | 32 |
| Political Science..... | 28 |
| General English or Modern Language..... | 9 |
| Business English..... | 9 |
| Mathematics..... | 9 |
| Science..... | 9 |
| History..... | 9 |
| Library Practice..... | 1 |
| Gymnasium, Women 6 credits, Men..... | 3 |
| Military Science and Tactics (Men)..... | 12 |
| Free electives..... | 45 |
| Total, Women 192 credits, Men..... | 207 |

DEGREE CURRICULUM IN COMMERCE

BUSINESS ADMINISTRATION

| | Freshman Year | | |
|--|------------------------|------------------------|------------------------|
| | 1st | 2d | 3d |
| ①Introduction to Accounting (BA 101)..... | 3 | ... | ... |
| ②Principles of Accounting (BA 102)..... | ... | 3 | ... |
| ②Accounting Practice (BA 103)..... | ... | ... | 3 |
| Counting Room Mathematics (Mth 101)..... | 3 | ... | ... |
| Mathematics of Investments (Mth 102)..... | ... | 3 | ... |
| Elements of Statistical Methods (Mth 103)..... | ... | ... | 3 |
| Elementary Typing (OT 111, 112, 113)..... | 2 | 2 | 2 |
| English Composition (Eng 101)..... | 3 | ... | ... |
| Business Correspondence (Eng 105)..... | ... | 3 | ... |
| Advanced Business English (Eng 106)..... | ... | ... | 3 |
| Commercial Geography (ES 101)..... | 4 | ... | ... |
| ⑤Economic History of Europe (ES 111)..... | ... | 4 | ... |
| ⑤Recent History of the United States (Hst 122)..... | ... | ... | 3 |
| Library Practice (Lib 100)..... | ... | ... | 1 |
| Social Ethics (PEW 121), Hygiene (PEW 122) (Women) (1) | (1) | (1) | ... |
| Gymnasium (Men)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Gymnasium (Women)..... | (1) | (1) | (1) |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

①Students who have had at least one year of bookkeeping should register for BA 102 the first term and BA 103 the second term.

②Students who intend to specialize in Markets and Salesmanship may substitute BA 141, 142, 143 for Accounting.

③Option in Home Economics: HAD 140, HA 118, HS 101.

Sophomore Year

| | 1st | Term | |
|--|------------------|------------------|------------------|
| | | 2d | 3d |
| Corporation Accounting (BA 201)..... | 3 | ..... | ..... |
| Industrial Accounting (BA 202)..... | ..... | 3 | ..... |
| Cost Accounting (BA 203)..... | ..... | ..... | 3 |
| Office Methods and Appliances (OT 251, 252, 253).... | 2 | 2 | 2 |
| Business Law (PS 201, 202)..... | 4 | 4 | ..... |
| Principles of Economics (ES 203)..... | ..... | ..... | 4 |
| ①Economic History of United States (ES 201)..... | 3 | ..... | ..... |
| ①European History I (Hst 212)..... | ..... | 3 | ..... |
| ①European History II (Hst 213)..... | ..... | ..... | 3 |
| English Literature or Modern Language..... | 3 | ..... | ..... |
| American Literature or Modern Language..... | ..... | 3 | ..... |
| Public Speaking or Modern Language..... | ..... | ..... | 3 |
| Gymnasium (Women) | (1) | (1) | (1) |
| Gymnasium (Men) | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ |

STENOGRAPHY AND OFFICE TRAINING

Freshman Year

| | | | |
|--|------------------|------------------|------------------|
| Elementary Stenography (OT 101, 102, 103)..... | 3 | 3 | 3 |
| Elementary Typing (OT 111, 112, 113)..... | 2 | 2 | 2 |
| ②Introduction to Accounting (BA 101)..... | 3 | ..... | ..... |
| Principles of Accounting (BA 102)..... | ..... | 3 | ..... |
| Accounting Practice (BA 103)..... | ..... | ..... | 3 |
| English Composition (Eng 101)..... | 3 | ..... | ..... |
| Business Correspondence (Eng 105)..... | ..... | 3 | ..... |
| ③Advanced Business English (Eng 106)..... | ..... | ..... | 3 |
| ③Economic History of Europe (ES 111)..... | 4 | ..... | ..... |
| ③Recent History of the United States (Hst 122)..... | ..... | 3 | ..... |
| Commercial Geography (ES 101)..... | ..... | ..... | 4 |
| Library Practice (Lib 100)..... | ..... | 1 | ..... |
| Social Ethics (PEW 121), Hygiene (PEW 122) (Women) (1) | ..... | (1) | ..... |
| Gymnasium (Men) | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Gymnasium (Women) | (1) | (1) | (1) |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ |

①Optional with Science. Nine credits in Science are required for graduation. The following are recommended: Ch 101, 102, 103; Ph 201, 202; Bac 201; ZP 321; Bot 101. Option in Home Economics: Ch 111, 112, 113, or select courses in School of Home Economics, subject to approval of the head of the department.

②Students who have had at least one year of bookkeeping, should register for BA 102 the first term, and BA 103 the second term.

③Option in Home Economics: HAd 140, HA 118, HS 101.

Sophomore Year

| | Term | | |
|--|------|------|------|
| | 1st | 2d | 3d |
| Advanced Stenography and Typing (OT 201, 202)..... | 5 | 5 | ... |
| Office Training for Stenographers (OT 203)..... | ... | ... | 5 |
| Advanced Business Law (PS 201, 202)..... | 4 | 4 | ... |
| Principles of Economics (ES 203)..... | ... | ... | 4 |
| ①Economic History of United States (ES 201)..... | 3 | ... | ... |
| ①European History I (Hst 212)..... | ... | 3 | ... |
| ①European History II (Hst 213)..... | ... | ... | 3 |
| English Literature or Modern Language..... | 3 | ... | ... |
| American Literature or Modern Language..... | ... | 3 | ... |
| Public Speaking or Modern Language..... | ... | ... | 3 |
| Gymnasium (Men)..... | 1½ | 1½ | 1½ |
| Gymnasium (Women)..... | (1) | (1) | (1) |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | 17 ½ | 17 ½ | 17 ½ |

②Junior Year

| | | | |
|--|-----|-----|-----|
| Business Organization (BA 331)..... | 3 | ... | ... |
| Business Management (BA 332)..... | ... | 3 | ... |
| Purchasing and Selling (BA 343)..... | ... | ... | 3 |
| Money and Banking (ES 311)..... | 4 | ... | ... |
| General Sociology (ES 305)..... | ... | 4 | ... |
| National Government (PS 301)..... | 3 | ... | ... |
| State and Local Government (PS 302)..... | ... | 3 | ... |
| Municipal Government (PS 303)..... | ... | ... | 3 |
| ③Electives..... | 7 | 7 | 11 |
| | 17 | 17 | 17 |

②Senior Year

| | | | |
|---------------------------------------|-----|-----|-----|
| Public Finance (ES 401)..... | 4 | ... | ... |
| Markets and Marketing (ES 402)..... | ... | 4 | ... |
| Transportation (ES 403)..... | ... | ... | 4 |
| Comparative Governments (PS 402)..... | 3 | ... | ... |
| International Relations (PS 401)..... | ... | ... | 4 |
| ③Electives..... | 10 | 13 | 9 |
| | 17 | 17 | 17 |

①Optional with Science. Nine credits in Science are required for graduation. The Science courses recommended will be found in the footnote on page 144. Option in Home Economics: Ch 111, 112, 113, or select courses in School of Home Economics, subject to approval of the head of the department.

②The junior and senior schedules may be modified to suit the individual student, provided that the requirements for graduation are met as stated on page 143.

③See pages 146-150.

MARKETING OF AGRICULTURAL PRODUCTS

Freshman and Sophomore Years

Major work in Marketing is open to students who have completed the freshman and sophomore years in either Commerce or Agriculture.

| | Junior Year | | | Term | | |
|--|-------------|-------|-------|-------|-------|-------|
| | 1st | 2d | 3d | 1st | 2d | 3d |
| ①Agricultural Economics (ES 362)..... | ..... | 3 | ..... | ..... | ..... | ..... |
| Farm Accounts and Business Management (BA 361).... | 3 | ..... | ..... | ..... | ..... | ..... |
| Rural Finance (ES 367)..... | 3 | ..... | ..... | ..... | ..... | ..... |
| Economic Organization of Agriculture (ES 364)..... | ..... | 3 | ..... | ..... | ..... | ..... |
| Rural Sociology (ES 464)..... | ..... | ..... | 3 | ..... | ..... | ..... |
| Business Management (BA 332)..... | ..... | ..... | 3 | ..... | ..... | ..... |
| Advanced Business Law (PS 201, 202)..... | 4 | 4 | ..... | ..... | ..... | ..... |
| ②Crop Production (FC 100)..... | ..... | ..... | 5 | ..... | ..... | ..... |
| ②Elements of Dairying (DH 200)..... | 4 | ..... | ..... | ..... | ..... | ..... |
| ②Stock Judging (AH 111)..... | ..... | 3 | ..... | ..... | ..... | ..... |
| Market Business Practice (BA 363)..... | ..... | ..... | 3 | ..... | ..... | ..... |
| Electives | 3 | 4 | 3 | ..... | ..... | ..... |
| Senior Year | | | 17 | 17 | 17 | 17 |
| Markets and Marketing (ES 402, 603)..... | ..... | 4 | 4 | ..... | ..... | ..... |
| Transportation (ES 403)..... | ..... | ..... | 4 | ..... | ..... | ..... |
| Insurance (ES 303)..... | ..... | ..... | 4 | ..... | ..... | ..... |
| State and Local Government (PS 302)..... | ..... | 3 | ..... | ..... | ..... | ..... |
| National Government (PS 301)..... | 3 | ..... | ..... | ..... | ..... | ..... |
| Principles of Advertising (BA 441)..... | ..... | 3 | ..... | ..... | ..... | ..... |
| ②Farm Management (FMg 302)..... | ..... | 4 | ..... | ..... | ..... | ..... |
| ②Livestock Management (AH 221)..... | 4 | ..... | ..... | ..... | ..... | ..... |
| Elements of Horticulture (Hrt 100)..... | 5 | ..... | ..... | ..... | ..... | ..... |
| Electives | 5 | 3 | 5 | ..... | ..... | ..... |
| | | | 17 | 17 | 17 | 17 |

SUGGESTED ELECTIVE COMBINATIONS

While the student may choose other subjects than those enumerated below, he is strongly urged to adopt one of these suggested combinations. Men are urged to elect Military Science and Tactics.

1. BUSINESS ADMINISTRATION

Junior Year

| | | | |
|--|-------|-------|-------|
| Bank Accounting and Administration (BA 301)..... | 3 | ..... | ..... |
| Auditing (BA 302)..... | ..... | 3 | ..... |
| C. P. A. Problems (BA 303)..... | ..... | ..... | 3 |
| Public Speaking ..... | ..... | ..... | 3 |
| History of Oregon (Hst 241)..... | ..... | ..... | 3 |
| Free electives | 4 | 4 | 2 |
| | | 7 | 11 |

①Students in Commerce may substitute ES 203 for this course. Students in Agriculture who intend to take the major in Marketing should elect ES 362 in the sophomore year.

②These courses may be modified to suit the requirements of students who major in various departments of Agriculture.

Senior Year

| | Term | | |
|--|------|------|------|
| | 1st | 2d | 3d |
| Governmental and Institutional Accounting (BA 401).... | 3 | .... | .... |
| Analysis of Accounts (BA 402)..... | .... | 3 | .... |
| Elements of Statistics (ES 313)..... | .... | .... | 3 |
| Principles of Advertising (BA 441)..... | .... | 3 | .... |
| Elementary Industrial Journalism (IJ 200)..... | 3 | .... | .... |
| Markets and Marketing (ES 603)..... | .... | .... | 4 |
| Free electives | 4 | 7 | 2 |
| | 10 | 13 | 9 |

2. ECONOMICS AND SOCIOLOGY**Junior Year**

| | | | |
|---------------------------|------|------|----|
| Modern Language | 3 | 3 | 3 |
| Cooperation (ES 323)..... | .... | .... | 4 |
| Free electives | 4 | 4 | 4 |
| | 7 | 7 | 11 |

Senior Year

| | | | |
|---|------|------|------|
| Governmental and Institutional Accounting (BA 401).... | 3 | .... | .... |
| Analysis of Accounts (BA 402)..... | .... | 3 | .... |
| Thesis in Accounting and Business Management (BA 403) ..... | .... | .... | 3 |
| Modern Language | 3 | 3 | 3 |
| Free electives | 4 | 7 | 3 |
| | 10 | 13 | 9 |

3. POLITICAL SCIENCE**Junior Year**

| | | | |
|----------------------|---|---|----|
| English | 3 | 3 | 3 |
| Free electives | 4 | 4 | 8 |
| | 7 | 7 | 11 |

Senior Year

| | | | |
|---|------|------|------|
| Governmental and Institutional Accounting (BA 401).. | 3 | .... | .... |
| Analysis of Accounts (BA 402)..... | .... | 3 | .... |
| Thesis in Accounting and Business Management (BA 403) ..... | .... | .... | 3 |
| Practical Legislation (PS 412)..... | .... | 4 | .... |
| Advanced American Government (PS 411)..... | 4 | .... | .... |
| Free electives | 3 | 6 | 6 |
| | 10 | 13 | 9 |

4. OFFICE TRAINING

Junior Year

| | 1st | Term 2d | 3d |
|---|---------|------------|----------|
| Reporters' Course (OT 401, 402, 403)..... | 3 | 3 | 3 |
| Accounting Practice (BA 201)..... | ..... | ..... | 3 |
| Free electives | 4 | 4 | 5 |
| | <hr/> 7 | <hr/> 7 | <hr/> 11 |

Senior Year

| | | | |
|--|----------|----------|---------|
| Principles of Advertising (BA 441)..... | ..... | 3 | ..... |
| General Sociology (ES 305)..... | 3 | ..... | ..... |
| Applied Sociology (ES 413)..... | ..... | ..... | 3 |
| Markets and Marketing (ES 603)..... | ..... | ..... | 4 |
| Elementary Industrial Journalism (IJ 200)..... | 3 | ..... | ..... |
| Free electives | 4 | 10 | 2 |
| | <hr/> 10 | <hr/> 13 | <hr/> 9 |

5. MARKETS AND SALESMANSHIP

Junior Year

| | | | |
|---|---------|---------|----------|
| Introduction to Foreign Trade (ES 306)..... | 3 | ..... | ..... |
| Advanced Commercial Geography (ES 304)..... | ..... | 3 | ..... |
| Insurance (ES 303)..... | ..... | ..... | 4 |
| Modern Language | 3 | 3 | 3 |
| Electives | 1 | 1 | 4 |
| | <hr/> 7 | <hr/> 7 | <hr/> 11 |

Senior Year

| | | | |
|---|---------|---------|---------|
| Elementary Psychology (Psy 301)..... | 3 | ..... | ..... |
| Principles of Advertising (BA 441)..... | ..... | 3 | ..... |
| Comparative Governments (PS 403)..... | ..... | ..... | 3 |
| Science | 3 | 3 | 3 |
| Electives | 3 | 3 | 3 |
| | <hr/> 9 | <hr/> 9 | <hr/> 9 |

6. MINOR IN COMMERCIAL EDUCATION

Junior Year

| | | | |
|---------------------------------------|---------|---------|----------|
| Elementary Psychology (Psy 301)..... | 3 | ..... | ..... |
| Vocational Psychology (Psy 312)..... | ..... | 3 | ..... |
| Educational Psychology (Psy 322)..... | ..... | ..... | 3 |
| History of Oregon (Hst 241)..... | ..... | ..... | 3 |
| Free electives | 4 | 4 | 5 |
| | <hr/> 7 | <hr/> 7 | <hr/> 11 |

Senior Year

| | Term | | |
|---|------|------|------|
| | 1st | 2d | 3d |
| Secondary Education in Commerce (CEd 451)..... | 3 | .... | .... |
| Practice Teaching in Commerce (CEd 461, 462)..... | .... | 5 | 5 |
| Free electives in Vocational Education..... | 7 | 8 | 4 |
| | 10 | 13 | 9 |

7. MINOR IN AGRICULTURE**Junior Year**

| | | | |
|---|------|------|------|
| Crop Production (FC 100)..... | 5 | .... | .... |
| Elements of Horticulture (Hrt 100)..... | .... | 5 | .... |
| Elements of Dairying (DH 200)..... | .... | .... | 4 |
| Free electives in Agriculture..... | .... | .... | 5 |
| | 5 | 5 | 9 |

Senior Year

| | | | |
|---|------|------|------|
| Stock Judging (AH 111)..... | 3 | .... | .... |
| Farm Management (FMg 302)..... | .... | 4 | .... |
| Soil Drainage and Irrigation (Sls 203)..... | .... | .... | 3 |
| Free electives in Agriculture..... | 7 | 9 | 6 |
| | 10 | 13 | 9 |

8. MINOR IN HOME ECONOMICS**Junior Year**

| | | | |
|--|------|------|------|
| Home Management for Business Women (HAd 140).... | 3 | .... | .... |
| Dress Design and Construction (HA 118)..... | .... | 3 | .... |
| Principles of Foods and Cookery (HS 101)..... | .... | .... | 3 |
| Free electives | 2 | 2 | 6 |
| | 5 | 5 | 9 |

Senior Year

| | | | |
|---|----|----|---|
| Household Chemistry (Ch 111, 112, 113)..... | 3 | 3 | 3 |
| Electives in Home Economics..... | 7 | 10 | 6 |
| | 10 | 13 | 9 |

Students who have taken these subjects in the freshman and sophomore years will select advanced courses, subject to approval of the head of the department.

9. MINOR IN ENGINEERING**Junior Year**

| | | | |
|--------------------------------------|------|------|------|
| Plane Trigonometry (Mth 111)..... | 4 | .... | .... |
| Algebra (Mth 121)..... | .... | 4 | .... |
| Differential Calculus (Mth 251)..... | .... | .... | 4 |
| Engineering Survey (ME 101)..... | .... | 1 | .... |
| Woodwork (IA 121)..... | .... | .... | 2 |
| Free electives in Engineering..... | 3 | 2 | 5 |
| | 7 | 7 | 11 |

Senior Year

| | Term | | |
|--|----------|----------|---------|
| | 1st | 2d | 3d |
| ①Mechanical Drawing (ME 111)..... | 2 | ... | ... |
| ①Gas or Steam Engines (ME 124 or 122)..... | ... | 3 | ... |
| Auto Mechanics (IA 181)..... | ... | ... | 2 |
| Free electives in Engineering..... | 8 | 10 | 7 |
| | <hr/> 10 | <hr/> 13 | <hr/> 9 |

10. MINOR IN PHYSICAL EDUCATION**Junior Year**

| | | | |
|---|---------------|---------------|---------------|
| General Zoology (ZP 101, 102)..... | 3 | 3 | ... |
| Comparative Zoology (ZP 103)..... | ... | ... | 3 |
| Advanced Aesthetic Dancing (PEw 331, 332, 333)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Advanced Outdoor Sports (PEw 241, 242, 243)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Free electives (Education recommended)..... | 3 | 3 | 7 |
| | <hr/> 7 | <hr/> 7 | <hr/> 11 |

Senior Year

| | | | |
|--|----------|----------|---------|
| Physiology and Anatomy (ZP 211, 212, 213)..... | 3 | 3 | 3 |
| Organization and Administration of Physical Education and Recreation (PEw 472)..... | ... | 3 | ... |
| Advanced Hygiene and Sanitary Science (PEw 423)..... | ... | ... | 2 |
| History of Physical Education (PEw 431)..... | 3 | ... | ... |
| Free electives (English or Education recommended)..... | 4 | 7 | 4 |
| | <hr/> 10 | <hr/> 13 | <hr/> 9 |

11. MINOR IN INDUSTRIAL JOURNALISM**Junior Year**

| | | | |
|--|---------|---------|----------|
| Elementary Industrial Journalism (IJ 200)..... | 3 | ... | ... |
| Industrial Journalism (IJ 310)..... | ... | 3 | ... |
| Editing (IJ 320)..... | ... | ... | 3 |
| Free electives in English, Industrial Journalism, and Military Science and Tactics..... | 4 | 4 | 8 |
| | <hr/> 7 | <hr/> 7 | <hr/> 11 |

Senior Year

| | | | |
|--|----------|----------|---------|
| Editorial Writing (IJ 440)..... | 3 | ... | ... |
| Journalism Practice (IJ 204)..... | ... | 2 | ... |
| Technical Journalism (IJ 330)..... | ... | ... | 3 |
| Free electives in English, Industrial Journalism, and Military Science and Tactics..... | 7 | 11 | 6 |
| | <hr/> 10 | <hr/> 13 | <hr/> 9 |

①Optional with selected subjects in other departments of Engineering, subject to approval of the head of the department.

VOCATIONAL CURRICULUM IN COMMERCE

| | First Year | | |
|--|------------|------------|------|
| | 1st | Term 2d | 3d |
| Introduction to Accounting (BA 101) or Elementary Stenography (OT 101)..... | 3 | .... | .... |
| Principles of Accounting (BA 102) or Elementary Stenography (OT 102)..... | .... | 3 | .... |
| Accounting Practice (BA 103) or Elementary Stenography (OT 103)..... | .... | .... | 3 |
| Elementary Typing (OT 111, 112, 113)..... | 2 | 2 | 2 |
| Vocational English (Eng 11, 12, 13)..... | 3 | 3 | 3 |
| Elementary Commercial Geography (ES 21)..... | .... | 3 | .... |
| United States History (Hst 10)..... | 3 | .... | .... |
| American Civil Government (PS 13)..... | .... | .... | 3 |
| Commercial Arithmetic (Mth 91, 92, 93)..... | 3 | 3 | 3 |
| Penmanship (BA 11, 12, 13)..... | 1 | 1 | 1 |
| Gymnasium (Men) | 1½ | 1½ | 1½ |
| Gymnasium (Women) | (1) | (1) | (1) |
| Social Ethics (PEw 121), Hygiene (PEw 122) (Women) | (1) | (1) | .... |
| Military Science and Tactics..... | 2 | 2 | 2 |
| <hr/> | | | |
| | 17½ | 17½ | 17½ |
| <hr/> | | | |
| Second Year | | | |
| Corporation Accounting (BA 201), Industrial Accounting (BA 202), Cost Accounting (BA 203)..... | 3 | 3 | 3 |
| Office Methods and Appliances (OT 251, 252, 253).... | 2 | 2 | 2 |
| Advanced Vocational English (Eng 21, 22, 23)..... | 3 | 3 | 3 |
| Elementary Industrial Problems (ES 23)..... | .... | 3 | .... |
| Elementary Industrial History (ES 22)..... | 3 | .... | .... |
| Business Law (PS 23)..... | .... | .... | 3 |
| Advanced Penmanship (BA 21, 22, 23)..... | 1 | 1 | 1 |
| Gymnasium (Men) | 1½ | 1½ | 1½ |
| Gymnasium (Women) | (1) | (1) | (1) |
| Military Science and Tactics..... | 2 | 2 | 2 |
| Electives | 3 | 3 | 3 |
| <hr/> | | | |
| | 17½ | 17½ | 17½ |

NUMBERING AND ARRANGEMENT OF DESCRIPTIONS OF COURSES IN THIS CATALOGUE

Courses in degree curricula are designated by numbers of three digits in which the left-hand digit represents usually the year (as first, second, third, etc.) in which the course is normally pursued; the middle digit represents the group of related courses in the department to which the course belongs; and the right-hand digit represents the sequence of courses in cases where courses normally follow each other in succeeding terms. Courses in vocational curricula are numbered with two digits, the first generally representing the year in which the course is pursued, the second the sequence of the course.

Under each department descriptions of vocational courses are printed immediately after the descriptions of collegiate courses.

BUSINESS ADMINISTRATION

The distinctive work of the department of Business Administration is to train men and women for efficient business organization and management. This includes thorough courses in the various phases of accounting, auditing, business organization, scientific management, advertising, and salesmanship.

While the courses in Business Administration are primarily designed to fit students for the counting-house and business office, including banking, such positions are generally only stepping stones to work of greater trust and responsibility. A large percentage of the commercial students eventually engage in business of their own.

The School of Commerce has taken a leading part in developing courses in business methods especially adapted to the farm and other industrial enterprises, the home, and cooperative institutions. Such courses are given not only in residence but also by correspondence.

When it is remembered that every vocation has its business side, and that this phase of all pursuits is receiving increasing attention, it is apparent that the avenues of employment and the chances for promotion for the really competent business expert are almost unlimited. As a preparation for law or public accounting, the work of this department, combined with Economics and Political Science, is especially attractive. A large proportion of the graduates in Commerce find employment as teachers of commercial subjects in state and private schools; to them the courses in Business Management are very important.

Equipment. The department of Business Administration is completely equipped for thorough and efficient work in modern business courses. Each room is especially designed and furnished for the work conducted in it. The furniture of the department consists of individual desks and counters and complete sets of office fixtures. Permanent blank books, letter files, rubber stamps, blanks, and similar material are provided by the department. Modern accounting and office machinery of various types, including adding machines, posting machines, a bookkeeping typewriter, calculating machines, duplicators, mimeographs, dictaphones, mimeoscope, filing cabinets, and typewriters, is available for student practice.

For outline of courses in Business Administration, see pages 143-144.

COLLEGIATE COURSES

BA 101. Introduction to Accounting. A thorough but rapid study of the general principles of bookkeeping. The aim of this course is to afford those students entering the Vocational or Degree curricula in Commerce, who have not had a year of bookkeeping, an

opportunity to secure preparation which will enable them to carry course BA 102.

Required in Commerce (freshman year) and in Vocational Curriculum (first year); any term; 3 credits; 3 recitations. Fee \$1.00. Text: Rittenhouse and Clapp, *Accounting Theory and Practice*.

L. C. Ball, L. H. Mardis

BA 102. Principles of Accounting. Modern accounting as practiced in the best business establishments; the use of special columns; controlling accounts, and their adaptations; labor-saving devices of all kinds studied with a constant view to secure greater accuracy and to diminish work; practice in retail, wholesale, and financial statements.

Prerequisite: BA 101 or equivalent. Required in Commerce (freshman year) and in Vocational Curriculum (first year); any term; 3 credits; 3 recitations. Fee \$1.00. Text: Rittenhouse and Clapp, *Accounting Theory and Practice*. *L. C. Ball, L. H. Mardis*

BA 103. Accounting Practice. A continuation of BA 102. A further study of special columns; partnership profits; admission of new partner; shipments and consignments; depreciation, reserves, and good will; opening corporation books.

Prerequisite: BA 102. Required in Commerce (freshman year) and in Commerce Vocational Curriculum (first year); any term; 3 credits; 2 lectures; 1 recitation. Fee \$1.00. Text: Rittenhouse and Clapp, *Accounting Theory and Practice*. *L. C. Ball, L. H. Mardis*

BA 141. Retail Selling. A general course covering the leading principles of retail salesmanship, and the development and expansion of the different aspects of the vocation, such as systems, policies, and conditions in retail stores.

Required in Commerce; freshman year; first term; 3 credits; 3 lectures. Text: Norton, *Retail Selling*.

BA 142. Introduction to Advertising. A general introductory course in advertising covering a study of the possible fields of advertising, materials of advertising mediums, a study of advertising campaigns, and a justification of advertising as a fixed expense.

Required in Commerce; freshman year; second term; 3 credits; 3 lectures.

BA 143. Credits and Collections. A general course in the accountancy of salesmanship, stressing practices of retail houses in the extension of credit, measurements of a risk, responsibility of the salesman to the credit department, and all phases of collection practices.

Required in Commerce; freshman year; third term; 3 credits; 3 lectures.

BA 201. Corporation Accounting. Theory of corporation accounting and the preparation of books illustrating the principles involved. Considerations of depreciation, reserves, advanced forms of final statement; statement of affairs and deficiency accounts; realization and liquidation. Throughout the course, theory is supplemented by problems and practice to develop initiative and originality.

Prerequisite: BA 103. Required in Commerce (sophomore year) and in Vocational Curriculum (second year); any term; 3 credits; 2 lectures; 1 recitation. Fee \$1.00. Text: Rittenhouse and Clapp, *Accounting Theory and Practice.* *F. L. Robinson*

BA 202. Industrial Accounting. A study of the accounting required by different industrial enterprises such as cooperative stores, grain elevators, creameries, logging and lumber manufacturing, large estates, etc. Publications issued by the United States Office of Markets are the basis of this course.

Prerequisite: BA 201. Required in Commerce; sophomore year; second term; 3 credits; 3 recitations. Fee \$1.00. *F. L. Robinson*

BA 203. Cost Accounting. This course covers the broader economic phases of accounting. Emphasis is laid on accounts as a means of administrative control and economy of production. (a) Theory of Cost Accounting. The elements of costs; cost and stock records; relation of cost accounts to the financial records; distribution of overhead; cost statements; graphical representation of costs. (b) Factory Costs. A laboratory course especially adapted to a manufacturing business with a considerable pay-roll.

Prerequisite: BA 103 or BA 261. Required in Commerce; sophomore year; third term; 3 credits; 3 recitations. Fee \$1.00. Text: Nicholson, *Cost Accounting.* *E. B. Lemon*

BA 301. Bank Accounting and Administration. A practical course in bank accounting, organization, and administration; the records and reports required of national and state banks; preparation and interpretation of bank reports; bank and clearing-house statistics; trust companies and savings banks; foreign exchange. Text supplemented by selected exercises.

Prerequisite: BA 201 or equivalent. Elective in Commerce; junior year; first term; 3 credits; 3 recitations. Text: Wolfe, *Practical Banking.* *E. B. Lemon*

BA 302. Auditing. The duties and responsibilities of the auditor; his function in the executive staff; his relation to the accounting department; different classes of audits; investigation in the conduct of the utility corporations, municipalities, and public institutions.

Typical audits will be studied and compared. Text supplemented by selected exercises.

Prerequisite: BA 201 or 203. Elective in Commerce; junior year; second term; 3 credits; 3 recitations. Text: Montgomery, Auditing in Principle and Practice. *E. B. Lemon*

BA 303. **C. P. A. Problems.** This course covers a large variety of practical problems viewed from the standpoint of the manager rather than the accountant. The material is drawn from certified public accountancy examinations and other sources. The student does not follow any prescribed form of treatment or solution, but is expected to develop analytical initiative, resourcefulness, and originality. Designed as a preparation for the C. P. A. examination. Text supplemented by selected exercises.

Prerequisite: BA 201 or BA 203. Elective in Commerce; junior year; third term; 3 credits; 3 recitations. *E. B. Lemon*

BA 331. **Business Organization.** General nature of business organization; evolution and forms of business units; structure and life history of typical corporations; the corporation and trust problem; public utility corporations; reorganization and receivership; blue sky laws and state control.

Required in Commerce; elective to others; junior year; first term; 3 credits; 2 lectures; 1 recitation. Texts: Haney, Business Organization. Babson's Reports. *J. A. Bexell*

BA 332. **Business Management.** Emphasis on the internal organization of a business for the purpose of securing efficiency; departmental organization and coordination; various systems of scientific management studied and compared.

Required in Commerce; elective to others; junior year; second term; 3 credits; 2 lectures; 1 recitation. Texts: The Executive and His Control of Men. Babson's Reports. *J. A. Bexell*

BA 343. **Purchasing and Selling.** (a) Purchasing. Principles of purchasing; relations of buying to successful merchandising and manufacturing; ethics of buying; the purchasing organization; records of purchasing; stores, their function and operation; markets; agents; brokers; jobbers; wholesalers; transportation; reports and statistics. (b) Selling. Qualifications of a salesman; business ethics; wholesaling and retailing; brokerage and commission; specialty selling; the sale of service; planning a selling campaign; special sales; prices and profits.

Required in Commerce; elective to others; junior year; third term; 3 credits; 2 lectures; 1 recitation. Texts: Twyford, Purchasing. Neystrom, Retail Selling. Babson's Reports. *J. A. Bexell*

BA 361. Farm Accounting and Business Management. (a) Farm Accounting. A thorough discussion of a system of accounts suited to the farm. Cost accounting is especially emphasized, with a view to determining the results of different enterprises. A thorough study is made of the income tax law as related to farm accounting. (b) Business Organization and Management. Individual proprietorship, partnership, joint-stock companies, and corporations; their adaptations from the standpoint of efficiency; status of stockholders; rights and obligations of bondholders; functions of officers and directors treated in detail; principles of efficient business management.

Required in Agriculture; junior year; first term; 3 credits; 1 lecture; 2 recitations. Texts: Bexell and Nichols, Principles of Bookkeeping and Farm Accounts. Robinson, Organizing a Business.

F. L. Robinson

BA 362. Dairy Accounting. Students who are not acquainted with the elements of double-entry bookkeeping are required to work out several practice sets and master the theory of accounts before taking up dairy accounting. In the last third of the course special attention is given to the development of a system of accounts suited to the dairy business. Text supplemented by selected exercises.

Elective in Agriculture; junior year; second term; 3 credits; 1 lecture; 2 recitations. Texts: Bureau of Markets Bulletin. I. C. S., Cost Accounting.

F. L. Robinson

BA 363. Market Business Practice. This course covers the business management of cooperative societies. It includes such subjects as organization of employees; buildings, office arrangement, and equipment; correspondence and filing; bookkeeping and cost accounting especially adapted to different types of cooperative associations in the United States, such as creamery associations and cow-testing associations; auditing; banking and finance; purchasing; advertising; selling; depreciation of assets; conduct of membership meetings; annual reports and audits; statistical analysis of operations.

Elective in Agriculture; junior year; third term; 3 credits; 1 lecture; 2 recitations. Text: The Cooperative Secretary. United States Bureau of Markets Bulletins.

F. L. Robinson

BA 371. Business Management for Women. The aim of this course is to treat in a practical way the ordinary rules and methods of conducting business affairs. Two distinct phases are emphasized as follows: (a) Finance. Value of money, how savings grow, banking and credit, general principles of investment, loan associations, bonds, stocks, and insurance. (b) Fundamentals of Business Law.

NOTE: BA 361, 362, 363, 371, and 381 are not open to students in Commerce.

The principles of the law of contracts, of negotiable paper, mortgages, real property, and wills.

Required in Home Economics; junior year; third term; 3 credits; 1 lecture; 2 recitations. *E. B. Lemon*

BA 381. Industrial Organization and Management. Principles of business organization; types; locating an industry; plant and equipment; buying, receiving, storing, and recording material; budget and planning; determination of costs; standardization; scientific management and time studies; wage, welfare, and employment problems; reports to executives.

Required in Engineering; elective to others; junior year; second term; 3 credits; 3 lectures and recitations. Text: Diemer, *Industrial Organization and Management*. *W. H. Dreesen*

BA 391. Army Paper Work. A study of the business methods and accounting of the United States Army as represented by its blanks and forms, and the regulations governing the use of such forms. The business methods of the Supply and Adjutant General Department are analyzed and compared with those used in civil life. Considerable outside reading is required to obtain credit in this course.

Elective; junior or senior year; any term; 2 credits; 1 lecture; 1 recitation.

BA 401. Governmental and Institutional Accounting. Financial and property accounting, especially as applied to the municipal, state, and national governments and institutions; estimates, appropriations, apportionments, allotments, methods of handling pay; purchase of supplies and equipment; property accounting and accountability; how supplies and property are obtained, issued, and accounted for in the various organizations; the preparation of budgets and reports. Government documents and bulletins constitute text.

Prerequisite: BA 201 or equivalent. Elective; senior year; first term; 3 credits; 1 lecture; 2 recitations. *E. B. Lemon*

BA 402. Analysis of Accounts. Interpretation of balance sheets, income sheets, and financial reports; graphical representation of business statistics; preparation of income tax statements. Government documents and bulletins used as texts.

Prerequisites: BA 302, 332. Elective; senior year; second term; 3 credits; 1 lecture; 2 recitations. *E. B. Lemon*

BA 403. Thesis in Accounting and Business Management. A research course and treatise on the organization and management of a business in which the student is especially interested. The subject of the thesis must be chosen at the time of registration, and a com-

plete outline approved by the professor in charge, not later than November 1. When the thesis is approved, a bound (either printed or typewritten) copy must be deposited in the College Library. Subject and list of reading to be approved within two weeks from date of registration.

Prerequisite: All College courses in Accounting and Business Management, or equivalent. Open only to seniors in Commerce; any term; 3 credits.

E. B. Lemon

BA 441. **Principles of Advertising.** Psychology and functions of advertising; classification and mediums; writing of copy and proof reading; types and display; engraving and printing methods; advertising and follow-up systems; advertising agencies.

Prerequisite: BA 343. Required in Commerce; elective to others; senior year; second term; 3 credits; 2 lectures; 1 recitation.

H. T. Vance

VOCATIONAL COURSES

BA 11, 12, 13. **Penmanship.** Students entering the Vocational Curriculum are expected to have acquired good handwriting in the grades, but considerable time is devoted during the first year to mastering the best form of business writing and lettering. BA 11 is prerequisite to BA 12 and BA 12 to BA 13.

Required in Vocational Curriculum; first year; three terms; 1 credit each term; 1 recitation.

Alta Cooper

BA 21, 22, 23. **Advanced Penmanship.** Emphasis is laid on rapid business writing, correct forms of business papers, lettering, and designing.

Prerequisite: BA 13 or equivalent. Required in Vocational Curriculum; second year; three terms; 1 credit each term; 1 recitation.

Alta Cooper

BA 61. **Farm Accounts and Business Methods.** An elementary course in the principles of bookkeeping and business methods as they apply to the farm; farm cost accounts and financial reports, with special reference to the income tax report; special records; inventories, valuation and depreciation; elements of banking; negotiable papers; the business letter; business forms; office equipment.

Required in Agriculture Vocational Curriculum; third term; 3 credits; 1 lecture; 2 recitations.

F. L. Robinson

BA 71. **Shop Accounting.** A course in the theory and practice of accounting, especially adapted to the shop. Sufficient time is

devoted to the fundamental principles of bookkeeping to familiarize the student with the use of special columns and various labor-saving devices. A special set of books adapted to the shop is then studied and prepared, making the course exceptionally practical. Text supplemented by original exercises.

Required in Mechanic Arts Vocational Curriculum; third term; 3 credits; 1 lecture; 2 recitations. Text: I. C. S., Cost Accounting.

ECONOMICS AND SOCIOLOGY

Including Rural Markets and Rural Organization

The work of this department serves the following purposes:

(1) **To train both men and women for citizenship.** Every citizen has business relations requiring a knowledge of the fundamental principles of economics. The necessity of such knowledge is especially felt in a democracy where every man and woman has the right to vote and is called upon to mold legislation directly. The basis for intelligently exercising this paramount duty of citizenship can only be supplied by a training in economics and sociology, the problems of which form the subject-matter of most legislation.

(2) **To provide economic training for technical students.** Three credits in economics are now required of all students in the College. In consultation with the deans of the various schools, required and elective courses have been worked out supplementary to the work of each school.

(3) **To train specialists in Agricultural Economics and Rural Sociology.** The School of Agriculture provides that students may elect a minor in Agricultural Economics and Rural Sociology. Such a minor affords excellent preparation for those who intend to go back to the farm and assume positions of business, educational, and political leadership. It gives the training needed for positions in state and Federal bureaus of markets. It lays a foundation for a business career as commission man, broker, jobber, wholesaler, or exporter of farm products. It should give the best possible training for positions as county agents, where capacity for leadership outweighs all other considerations.

(4) **To do field work. The Bureau of Organization and Markets.** In 1914 the Board of Regents established the Bureau of Organization and Markets for the purpose of assisting farmers in marketing their products. The Bureau has been carrying on its work in cooperation with the Bureau of Markets of the United States Department of Agriculture.

The work of the Bureau, in the first place, is investigational. It aims to find out the conditions fundamental to successful marketing, and to place the results of its investigation at the disposal of all who are interested. In the second place, it is at the service of any group of farmers contemplating the establishment of any sort of business organization. It has worked out model constitutions and by-laws and standardized systems of accounting; it has lists of equipment and, in cooperation with the various technical departments of the

College, can inform farmers where such equipment can be most cheaply obtained. It also assists organizations in planning the kind of plants necessary to carry on their business.

Equipment. The department has for some years been developing a commercial museum for use in the various courses in economic and social science. The museum has now grown to such an extent that it is a very important factor in making the work of the department practical and successful. The Bureau of Organization and Markets also has a collection of bulletins, pamphlets, lantern slides, and documents illustrating the farmers' marketing and organization movement in all parts of the world.

COLLEGIATE COURSES

ES 101. Commercial Geography. The physiographic basis of commerce and industry; the natural resources of the different countries of the world; the geographic distribution of labor and industry as determined by natural conditions such as climate, topography, soil, and mineral resources. Specimens from the Commercial Museum are used by the students. Assigned readings, outline maps. (Not to be taken by students presenting Commercial Geography for entrance credit.)

Required in Commerce and Industrial Arts (freshman year) and in Mechanical Engineering (sophomore year); any term; 4 credits; 4 recitations. Text: Robinson, Commercial Geography.

W. H. Dreesen, J. F. Page

ES 103. Commercial Geography. An advanced course for students who have had Commercial Geography in high school.

Required in Commerce; freshman year; third term; 4 credits; 4 recitations.

W. H. Dreesen

ES 111. Economic History of Europe. A course covering the most important economic changes and achievements in Europe during the past three hundred years; study of the rise and decline of the manorial system; important changes in agriculture; rise of factory system; trades unionism; the development of commercial policies; labor conditions and legislation, together with socialism and social insurance.

Required in Commerce; freshman year; first or second term; 4 credits; 4 recitations. Text: Ogg, Economic Development of Modern Europe.

E. B. Mittelman

ES 201. Economic History of the United States. On the basis of a knowledge of our natural resources and of the previous commercial and economic development of the world, attempt is made to

outline and interpret the economic and social progress of the United States. The development of agriculture, the growth of manufacturing, the improvement of transportation, the history of labor organization and legislation, the evolution of our monetary and credit systems, changes in the protective tariff, progress towards economic and social solidarity, etc., are traced from Colonial times onward.

Prerequisites: ES 101, 111. Required in Commerce; sophomore year; first term; 3 credits; 3 recitations. *H. Macpherson*

ES 203. Principles of Economics. A general course covering the elementary problems of our industrial and commercial organization, the nature of wealth, its production and consumption, the different forms in which it is found; conditions underlying successful commerce and manufacturing; localization of industry and relation of raw material to manufacturing; law of diminishing returns; division of labor and efficiency production; exchange and distribution and their dependence upon the price-making process; factors determining prices, wages, interest, and rent; problems of taxation; public expenditures; protection and free trade; money and banking; labor problems and transportation. Text-book, lectures, and reports on assigned readings.

Prerequisites: ES 101, 201. Required in Commerce; sophomore year; third term; 4 credits; 4 recitations. Text: Ely, Outline of Economics. Marshall, Wright and Field, Materials for the Study of Elementary Economics. *W. H. Dreesen, E. B. Mittelman*

ES 211. Conservation. Economic wastes arising out of the exploitation of natural resources; the mal-adjustment of industry; the misdirection of labor; the present order of consumption; conservation laws and policies tending to eliminate wastes and abuses.

Elective; first term; 3 credits; 3 recitations. Open to any student who has had ES 203, ES 391, or ES 362, or equivalent.

N. H. Comish

ES 301. Labor Problems. Brief historical review of the rise of a labor class; influence of occupation upon the laborer; beginnings of organization; structure, aims, methods of offense and defense; achievements of associations of labor; the trade agreement; the strike; the boycott; the lockout; methods of conciliation and arbitration; application of the injunction in labor disputes; political activity of labor organizations; the employers' association; the employers' liability; workingmen's insurance; profit-sharing and cooperation in relation to labor problems. Text-book, lectures, and assigned readings. Studies are made of typical historical and current labor disputes and embodied in term papers and class discussion.

Prerequisite: ES 203 or ES 391. Elective in Commerce (junior or senior year); required in Forestry (sophomore year); second term; 4 credits; 4 recitations. *H. Macpherson*

ES 303. **Insurance.** A course designed to cover, in a general way, the whole field of insurance. Nature and statistical basis of different kinds of insurance; application of the principles discovered to different forms of insurance such as straight life, endowment, accident, industrial, old age, fire, livestock, hail, etc., taken up in detail.

Elective; junior or senior year; third term; 4 credits; 4 recitations. Text: Heubner, Life Insurance, Property Insurance.

W. H. Dreesen

ES 304. **Advanced Commercial Geography.** An advanced course in world resources, trade routes, climates and trade relations for students who are planning to enter foreign trade.

Elective to students who have had ES 101 and ES 203; second term; 3 credits; 3 recitation and lecture periods.

ES 305. **General Sociology.** Origin, development, present conditions, and social functioning of our social units, such as the family, the school, the church, clubs, associations, institutes, etc.; the city, state, and nation; interpretation of the causes of the strength and weakness of modern social institutions, showing their influence upon the general welfare of society and the progress toward greater efficiency; analysis of the social causes and effects of ignorance; vice and crime; poverty; unstable family relations; political dishonesty, etc.; general discussion of the principles underlying their elimination.

Elective; junior year; second term; 4 credits; 4 recitations.

H. Macpherson, J. F. Page

ES 306. **Introduction to Foreign Trade.** International values; international commercial policies and treaties; bases of foreign trade; consular service; foreign exchange and international banking systems; ocean routes and carriers; methods of packing and shipping; shipping documents; marine insurance; foreign trade organizations.

Elective to students who have had ES 101 and ES 203; first term; 3 credits; 3 recitation and lecture periods.

W. H. Dreesen

ES 311. **Money and Banking.** (a) Money. The nature and functions of money; legal tender; the factors affecting price, and their relation to business conditions; brief history of the various forms of paper money; silver legislation; present problems and conditions. (b) Banking. Functions of banks; history of banking, including our national banking system, with emphasis upon the

Federal Reserve Bank Act; currency and banking principles underlying United States and foreign banking systems; comparison of our banking system with those of foreign countries. Assigned readings. Two sections first term; one section second term.

Prerequisite: ES 203. Commerce; junior year; first or second term; 4 credits; 4 recitations. Text: Holdsworth, Money and Banking. *W. H. Dreesen*

ES 313. **The Elements of Statistics.** A description of the methods of collecting and interpreting original and secondary data; practice in scientifically presenting statistics in such forms as tables, charts, diagrams, curves, and maps.

Elective; junior, senior, or graduate year; third term; 3 credits; 3 recitations. Text: Secrist, Introduction to Statistical Methods. *E. B. Mittelman*

ES 323. **Cooperation.** Origins, structures, objects, methods, and results of cooperative producers', consumers', and marketing associations, including, for example, such cooperative organizations as creameries, cheese factories, meat factories, stores, purchasing societies, consumers' leagues, warehouses, grain elevators, fruit and vegetable associations, livestock societies, credit and insurance companies.

Elective to juniors and seniors who can not take ES 364 and ES 367, and who have had ES 203, ES 391, or ES 362, or equivalent; third term; 4 credits; 4 recitations. *N. H. Comish*

ES 362. **Agricultural Economics.** Fundamental principles of production, consumption, and distribution with special reference to agriculture; land tenure; land values; the law of proportions; price-making processes; money; banking; rural credit; cooperation; marketing; transportation; taxation; rent; interest; wages; and profits. One section first term; two sections second term.

Required in Agriculture; junior year; first or third term; 3 credits; 3 recitations. Text: Taylor, Agricultural Economics.

N. H. Comish

ES 364. **The Economic Organization of Agriculture.** Economic problems discussed from the standpoint of efficiency to be attained through closer organization; old and new agricultural methods of production, purchasing, transportation, and marketing carefully investigated and compared for the purpose of eliminating waste and duplication; organization of farmers for purposes of production, purchasing, marketing, and insurance taken up in detail; the general farmers' movement resulting in the granges and farmers' unions.

Open to all students who have had ES 362 or its equivalent. Elective; junior or senior year; second term; 3 credits; 3 recitations.

N. H. Comish

ES 365. **National Vitality.** The general field of national vitality; its importance; the conditions underlying it, and the means of main-

taining such conditions; economic and social waste due to disease, alcohol, and vice treated in a series of lectures by experts from different departments of the College; lectures by outside specialists upon particular phases of the subject. Besides taking notes on the lectures, each student is required to make an abstract of not less than three hundred pages of assigned readings. Note: This course will not be given unless at least fifteen students register for it.

Elective; third term; 2 credits; 2 recitations. *H. Macpherson*

ES 366. The Literature and Exposition of Rural Life. A critical study of the general field of literature bearing upon rural life; typical interpretations of rural life from the best poetry and prose; the rural press studied with a view to estimating its sociological and economic influence; themes upon current economic and sociological topics and the subject-matter discussed in the classroom to familiarize the student with the problems involved in the rural life movement.

Elective; junior or senior year; third term; 4 credits; 4 recitations. *H. Macpherson*

ES 367. Rural Finance. Various phases of farm finance, including, among other topics, the following: principles of money, banking, and credit; rural credit laws; registration of land titles; rental and transfer contracts; land settlement and colonization policies; types of rural insurance; and the taxation of rural properties.

Open to those who have had ES 362 or equivalent. Elective; junior or senior year; first term; 3 credits; 3 recitations.

N. H. Comish

ES 391. Introduction to Economics. Abbreviated course (see ES 203).

Required in Forestry; elective for all students except Commerce; year as may be specified in the department schedule; any term; 3 credits; 3 recitations. Text: Ely, *Outlines of Economics*.

N. H. Comish, E. B. Mittelman

ES 393. Introduction to Sociology. Abbreviated course (see ES 305).

Required in Home Economics; elective for all students except Commerce; year as may be specified in the department schedule; any term; 3 credits; 3 recitations.

H. Macpherson, J. F. Page

ES 396. Introduction to Labor Problems. This course is based upon ES 301, but is abbreviated and adapted to meet the needs of technical students who have had ES 391, or equivalent.

Prerequisite: ES 391, or its equivalent. Required in Forestry; elective for all students except Commerce; junior or senior year; third term; 3 credits; 3 recitations.

H. Macpherson

ES 401. Public Finance. Public expenditures, local, state, and national; brief history of reforms calculated to secure efficiency in these expenditures; forms of taxes, customs, and fees whereby revenues are raised; present systems of land taxation studied in the light of proposed reforms; special attention to war finance; bonds versus taxes in public finance; management of national and local debts. Assigned readings.

Required in Commerce; senior year; first term; 4 credits; 4 recitations. Text: Plenn, Introduction to Public Finance.

W. H. Dreesen

ES 402. Markets and Marketing. A critical study of the marketing of staples, semi-staples, and perishable farm products, including the geographical location of producing areas, marketing routes from the producer to the consumer, types of middlemen, direct marketing, marketing costs, standardization, factors influencing prices, and a general description of our whole marketing system as it exists today.

Required in Commerce; elective to other students by permission of instructor; senior year; second term; 4 credits; 4 recitations.

N. H. Comish

ES 403. Transportation. Relation of transportation systems to industrial and commercial progress; a brief historical review of the development of systems of transportation; organization and financing of different systems; effect of competition in the railroad business; freight classification and the making of rates and fares; the necessity of government control and attempts at regulation by state and Federal governments; government ownership in the light of European experience.

Elective; senior year; third term; 4 credits; 4 recitations. Text: Ripley, Rates and Regulation.

E. B. Mittelman

ES 413. Applied Sociology. Application of the principles of sociology to the promotion of social welfare; ethical gains through legislation and through voluntary associated and individual effort for the control of housing, relief of poverty, the suppression of vice, the control of juvenile delinquents, prison reforms, cooperation among religious institutions, elimination of corruption from politics, care and elimination of mental and physical defectives; lectures, supplementary readings, and problem investigation.

Open to students who have had either ES 405 or ES 464. Elective; third term; 3 credits; 3 recitations.

H. Macpherson

ES 464. Rural Sociology. Special problems of the evolution of rural institutions, the rural community, the rural family, the rural school, the rural church, rural societies and associations; rural

systems of transportation and communication; the dependence of national welfare upon the rural community.

Elective; junior or senior year; third term; 3 credits; 3 recitations. *H. Macpherson*

ES 603. Markets and Marketing. Continuation of ES 402. An intensive study of the products entering domestic and foreign trade and the methods of marketing them. Among other topics taken up are the following: development of marketing systems; speculation, organized and unorganized; local, state, and national commercial programs and policies; commercial clubs, boards of trade, chambers of commerce; foreign trade relations; transportation routes; the consular service; commercial treaties; tariffs; bounties; and foreign exchange.

Elective to graduate and senior students upon consultation with the instructor; third term; 4 credits; 4 recitations. *N. H. Comish*

VOCATIONAL COURSES

ES 11. Business and Social Organization. Discussion of the principles of better business and better living that should accompany the general improvement in farm methods which it is the purpose of this College to promote; general application of the economic laws of consumption, distribution, and production to the business side of farming; social and economic results of agricultural organization; text-book, lectures, and assigned readings.

Elective in Agriculture Vocational Curriculum; first year; second term; 4 credits; 4 recitations. *N. H. Comish*

ES 21. Elementary Commercial Geography. Especially adapted for Vocational students. A general survey of the fundamental conditions affecting industrial and commercial development, followed by a study of the natural resources, industries, products, and commerce of the United States and each of the principal countries of the world. Emphasis is laid upon the reasons for the organization of industry. Materials from the Commercial Museum are used.

Required in Commerce Vocational Curriculum; first year; second term; 3 credits; 3 recitations. Text: Brigham, Commercial Geography. *W. H. Dreesen*

ES 22. Elementary Industrial History. A general, comprehensive review of the most important phases of the economic development of the United States; historical study of such topics as tariff, internal improvements, slavery, banking, industrial development, commerce and shipping, immigration, and other similar topics; present-day problems, as presented in the press.

Required in Commerce Vocational Curriculum (second year), and in Mechanic Arts Vocational Curriculum; first term; 3 credits; 3 recitations. Text: Moore, Industrial History of the American People. *W. H. Dreesen*

ES 23. **Elementary Industrial Problems.** Especially designed for Vocational students in Industrial Arts and Commerce. It aims to give them some insight into the economic problems with which they have to deal. A very condensed outline of the principal economic concepts is followed by the discussion of industrial organization, labor problems, transportation, marketing, taxation, etc.

Required in Mechanic Arts Vocational Curriculum and in Commerce Vocational Curriculum (second year); second term; 4 credits; 4 recitations. Text: Ely and Wicker, Elementary Principles of Economics. *W. H. Dreesen*

OFFICE TRAINING AND STENOGRAPHY

The courses offered by this department are for four classes of students: (a) those desiring a thorough training as stenographers and typists; (b) those desiring to go further into the field of court reporting and secretarial training; (c) those desiring to enter the teaching profession; and (d) those commercial teachers desiring advanced training.

The ground covered by the work of this department is as follows: Stenography and Typewriting, two years; Secretarial Training, one year; Convention and Court Reporting, one year; and Methods of Teaching Commerce, one year.

Equipment. The Office Training department is equipped with the latest appliances and fixtures, including the standard types of typewriters, duplicators, mimeographs, dictaphones, mimeoscope, and filing cabinets. Each student is given access to equipment upon payment of a fee required for the course in which he is registered. All equipment and apparatus are kept in constant repair, and students are taught how to keep the apparatus they use in proper order.

COURSES

OT 101. ***Elementary Stenography.** Theory of manual, Gregg Shorthand, first eight lessons covered thoroughly. Shorthand penmanship given especial attention. Typing course OT 111 must be taken concurrently with this course unless student has had an equivalent course.

Required in Commerce (freshman year) and in Commerce Vocational Curriculum (first year); elective to others; first term; 3 credits; 4 recitations. Texts: Gregg Shorthand Manual and Gregg Writer.

OT 102. ***Elementary Stenography.** A continuation of OT 101. Manual completed through the fifteenth lesson. Typing course OT 112 must be taken concurrently with this course unless student has had an equivalent course.

Required in Commerce (freshman year) and in Commerce Vocational Curriculum (first year); elective to others; second term; 3 credits; 4 recitations. Texts: Gregg Shorthand Manual. Gregg Writer. Gregg Speed Studies.

* Less than 9 credits in Stenography or 6 credits in Typing will not be counted toward the B.S. degree in Commerce. Students in other schools may offer less as elective work.

OT 103. ***Elementary Stenography.** A continuation of OT 102. Theory of manual completed. Thorough review of principles. Special attention given to phrase writing. Beginning dictation. Typing course OT 113 must be taken concurrently with this course unless student has had an equivalent course.

Required in Commerce (freshman year) and in Commerce Vocational Curriculum (first year); elective to others; first or third term; 3 credits; 4 recitations. Texts: Gregg Shorthand Manual. Gregg Writer. Gregg Speed Studies.

OT 111. ***Elementary Typing.** Touch typing. Theory and practice of touch typing, covering mastery of alphabet and numerals. Finger gymnastics, rhythm drills, dictation exercises. A speed of twenty words a minute is required. Required for OT 101 students.

Required in Commerce; elective to others; freshman year; any term; 2 credits; 5 one-hour laboratory periods; 1 hour home assignment. Fee \$2.00. Text: Rational Typewriting.

OT 112. ***Elementary Typing.** Continuation of OT 111. Drill. Writing paragraphs, continuous matter. Punctuation and mechanical arrangement of business correspondence. A speed of thirty-five words a minute is required. Required of OT 102 students.

Required in Commerce; elective to others; freshman year; any term; 2 credits; 5 one-hour laboratory periods; 1 hour home assignment. Fee \$2.00. Text: Rational Typewriting.

OT 113. ***Elementary Typing.** Continuation of OT 112. Legal forms, tabulating, centering, manifold, and speed practice. Speed certificates granted. A speed of fifty words a minute is required. Required of OT 103 students.

Required in Commerce; elective to others; freshman year; any term; 2 credits; 5 one-hour laboratory periods; 1 hour home assignment. Fee \$2.00. Text: Rational Typewriting.

OT 121. ***Elementary Stenography. Condensed Course.** Designed for those who wish to prepare rapidly for civil service or teaching positions. First fourteen lessons in the Manual covered thoroughly. Course OT 131 must be taken concurrently with this course unless student has had the equivalent.

Elective in all curricula; freshman year; first or second term; 6 credits; 7 recitations. Texts: Gregg Shorthand Manual. Gregg Writer.

* Less than 9 credits in Stenography or 6 credits in Typing will not be counted toward the B.S. degree in Commerce. Students in other schools may offer less as elective work.

OT 122. ***Intermediate Stenography. Condensed Course.** Continuation of OT 121. Theory of Manual completed. Drill on phrase writing. Beginning dictation. Course OT 132 must be taken concurrently with this course.

Elective in all curricula; freshman year; second or third term; 6 credits; 8 recitations. Texts: Gregg Shorthand Manual. Gregg Writer. Gregg Speed Studies.

OT 133. ***Advanced Stenography and Typing. Condensed Course.** A continuation of OT 121 and 131. Advanced dictation, drill on matter qualifying one to pass civil service examination.

Elective in all curricula except regular Commerce; freshman year; third term; 6 credits; 6 recitations; 6 hours home work; 6 one-hour laboratory periods. Fee \$3.00. Text: Eldridge Dictation Exercises.

OT 201. ***Advanced Stenography and Typing.** Advanced principles and phrases, Gregg or Pitman Shorthand. Dictation and transcripts covering vocabularies of representative businesses such as law, banking, insurance, publishing, railway, and manufacturing. Advanced typing and effective arrangement of business correspondence.

Prerequisites: OT 103, 113, or equivalent. Required in Commerce (sophomore year) and in Commerce Vocational Curriculum (second year); first or second term; 5 credits; 5 recitations; 5 hours home work; 5 one-hour laboratory periods. Fee \$2.00. Texts: Gregg Speed Studies. Gregg Writer.

OT 202. ***Advanced Stenography and Typing.** Advanced dictation, legal forms, newspaper and magazine articles. Court and convention reporting introduced. Sections for Gregg and Pitman students.

Prerequisite: OT 201 or equivalent. Required in Commerce (sophomore year) and in Commerce Vocational Curriculum (second year); second or third term; 5 credits; 5 recitations; 5 hours home work; 5 laboratory periods. Fee \$2.00. Texts: Eldridge Dictation Exercises. Expert Speed Course. *Bertha A. Whillock*

OT 203. **Office Training for Stenographers.** Training course in advanced dictation, stenographic practice, and office procedure. Practice is provided in the preparation of bills, specifications, legal documents, and filing of correspondence. Study and use of modern office appliances, such as mimeograph, dictaphone, mimeoscope, hectograph, and bookkeeping machines.

* Less than 9 credits in Stenography or 6 credits in Typing will not be counted toward the B.S. degree in Commerce. Students in other schools may offer less as elective work.

Prerequisite: OT 202 or equivalent. Required in Commerce (sophomore year) and in Commerce Vocational Curriculum (second year); any term; 5 credits; 2 lectures; 4 two-hour laboratory periods. Fee \$2.00.

OT 251. Office Methods and Appliances. Designed for Commerce students not taking stenography. Study and use of modern office appliances such as mimeoscope, mimeograph, multigraph, addressing machines, dictaphones, calculating and bookkeeping devices. Filing and office routing. Continuation of typing course OT 113.

Required in Commerce (sophomore year) and in Commerce Vocational Curriculum (second year); first term; 2 credits; 5 one-hour lecture and laboratory periods; 1 hour home assignment. Fee \$2.00.

OT 252. Office Methods and Appliances. Continuation of OT 251. Practice and principles of scientific office management covering organization, arrangement, and operation, with special consideration of the employment, training, and payment of office workers. Study and drill in office efficiency problems and business ethics.

Prerequisite: OT 251. Required in Commerce (sophomore year) and in Commerce Vocational Curriculum (second year); second term; 2 credits; 1 lecture; 4 one-hour laboratory periods. Text: Galloway, Office Management.

OT 253. Office Methods and Appliances. Continuation of OT 252. Required in Commerce (sophomore year) and in Commerce Vocational Curriculum (second year); third term; 2 credits; 1 lecture; 4 one-hour laboratory periods.

OT 261. Expert Typing. Designed to give expert finger training. Emphasis on artistic typing and rapid tabulating, billing, and manifold, with absolute accuracy. A speed of sixty-five words a minute is required. Proficiency certificates for speed and accuracy will be granted.

Prerequisite: OT 113. Elective, primarily for other than Commerce students; sophomore year; first or third term; 2 credits; 5 laboratory hours; 1 hour home assignment. Fee \$2.00. Text: Rational Typewriting.

OT 301. Commercial Secretaries. Private secretary defined; learning the position; managing callers; handling correspondence; outlines and reports; sources of information; editing and proof reading; appointments; diaries and accounts; ethics; systematizing the office.

Prerequisite: OT 203. Elective in Commerce; junior year; any term; 3 credits; 3 lectures. Text: Kilduff, Private Secretary.

OT 302. **Secretarial Practice.** Continuation of OT 301.

Elective in Commerce; junior year; any term; 6 hours a week actual practice in College administrative offices; 2 credits.

OT 401. **Reporters' Course.** Designed for those having completed OT 203 and desiring to specialize in court or convention reporting.

Elective; junior or senior year; first term; 3 credits; 2 recitations; 3 one-hour laboratory periods. Fee \$1.00.

OT 402. **Reporters' Course.** A continuation of OT 401.

Elective; junior or senior year; second term; 3 credits; 2 recitations; 3 one-hour laboratory periods. Fee \$1.00.

OT 403. **Reporters' Course.** A continuation of OT 402. Verbatim reporting of addresses, lectures, and talks given on the campus. Accurate transcripts to be made.

Elective; junior or senior year; third term; 3 credits; 2 recitations; 3 one-hour laboratory periods. Fee \$1.00.

POLITICAL SCIENCE

In the courses in Political Science proper the department seeks to instruct in the basic general principles of all government, the construction and operation of modern governments, with particular attention to that of the United States, and the rules and principles which regulate the relations of governments to each other. The courses are planned with the purpose of equipping students for an intelligent participation in governmental affairs. The work culminates in the courses in Advanced American Government and Practical Legislation, designed to instruct in the fundamentals of law-making. The work assumes that, as citizens, our students will take a dynamic part in the various activities of government, including law-making.

In the Business Law courses the department endeavors to train students for practical business affairs, particularly to give the legal information necessary to prevent the common business errors. Special attention is given to industrial and rural problems. In order to acquaint the student with the rudiments of court procedure, a practical case is tried by the class, the students performing all the parts.

For outline of courses in Political Science in the School of Commerce, consult page 147.

COLLEGIATE COURSES

PS 163. Business and Rural Law. A short course in the laws of business, covering briefly much the same field as PS 201 and PS 202, but applied particularly to the special needs of students. Work for Pharmacy students gives emphasis to strictly business law. Work for Agriculture students stresses farm law. Recitations and discussions.

Required in Pharmacy, Farm Management, Animal Husbandry, and Landscape Gardening; elective to others except Commerce; third term; 3 credits; 3 recitations. Text: Huffcut, *Elements of Business Law*.
U. G. Dubach, R. R. Hewitt

PS 201. Advanced Business Law. (a) Contracts in General. Requisites, formation, interpretation, and remedies for breach of contracts. (b) Sales of Personal Property. Passage of title, warranties and remedies. Note: Credit will not be given for PS 201 without PS 202 except on special permission from the department.

Required in Commerce and Forestry; elective to others; sophomore year; first or second term; 4 credits; 4 recitations. Texts:

Spencer, Manual of Commercial Law. Bays, Cases on Commercial Law. *U. G. Dubach, R. R. Hewitt*

PS 202. **Advanced Business Law.** Continuation of PS 201. (c) Negotiable Instruments. Requisites of contract assignment and negotiation. Liability of maker, drawer, acceptor, and indorser. Proceedings to protect rights of parties. (d) Agency. Appointment powers and responsibilities of agents. (e) Partnership and Corporation. Comparison of methods of formation, dissolution, and powers and liabilities of members. (f) Property Classes. Title, abstracts, mortgages, and leases. The case method is used throughout the entire course. Lectures, reports, and discussions.

Required in Commerce and Forestry; elective to others, sophomore year; second or third term; 4 credits; 4 recitations. Texts: Spencer, Manual of Commercial Law. Bays, Cases on Commercial Law. *U. G. Dubach, R. R. Hewitt*

PS 301. **National Government.** Consideration of the organization, functions, and present-day problems of the American Federal Government.

Required in Commerce and Mines; elective in other curricula; any term; 3 credits; 3 recitations. Text: Munro, Government of the United States. *U. G. Dubach, F. A. Magruder*

PS 302. **State and Local Government.** Consideration of the organization, functions, and present-day problems of state, county, and township government in the United States. The government of Oregon receives special attention.

Required in Commerce and Mines; elective to others; junior or senior year; second term; 3 credits; 3 recitations. Text: Munro, Government of the United States. *U. G. Dubach, F. A. Magruder*

PS 303. **Municipal Government.** Consideration of the organization, functions, and present-day problems of city and town government. The cities of the Northwest receive special attention.

Required in Commerce; elective to others; junior or senior year; third term; 3 credits; 3 recitations. *F. A. Magruder*

PS 401. **International Relations.** America as a World Power and her relation to contemporary political, social, and economic world events; races, languages, religions, and types of government in Europe and the Near East; Great Britain and her imperial problems; fundamental principles of international law and proposed plans for preserving international peace; partition of Africa; the Chinese Republic; Japanese expansion; Oriental problem on the

Pacific Coast; our relations with Canada and with Mexico; the Carribeans as an American problem; our interest and opportunities in South America; American ideals. Lectures, discussions, and tests.

Required in Commerce; elective to others; senior year; first or third term; 4 credits; 4 recitations. *F. A. Magruder*

PS 402. **Comparative Governments.** A critical study of the governments of the principal countries of Europe, with emphasis on modern movements and features of government that are problems in the United States at present. Lectures, reports, and discussions.

Elective; senior year; second term; 3 credits; 3 recitations.

F. A. Magruder

PS 403. **Comparative Governments.** Continuation of PS 402, covering governments of Canada and the countries of Latin America. Lectures, reports, and discussions.

Elective; senior year; 3 credits; 3 recitations. *U. G. Dubach*

PS 411. **Advanced American Government.** Supplementary to PS 301, 302, and 303, giving chief attention to the interpretation of Federal and state constitutions, and the relation of legislation to the constitutions. Court reports are used liberally to show the interpretation of the rights of the people guaranteed in the constitutions and of the powers granted to the government by these instruments.

Prerequisite: PS 301. Elective; junior or senior year; first term; 4 credits; 4 recitations. Text: Hall, Constitutional Law.

U. G. Dubach

PS 412. **Practical Legislation.** Instruction in practical bill drafting; attention given to correct form, and expression of desired content of bills; emphasis on the necessity of preparing laws with reference to prior legislation and court decisions; emphasis on rural and industrial legislation.

Prerequisite: PS 411. Elective; junior or senior year; second term; 4 credits; 4 recitations. Text: Jones, Statute Law Making in the United States.

U. G. Dubach

PS 601. **Business Law.** Class work same as PS 201 with special research work required in addition.

For graduate students other than Commerce; first term; 4 credits; 4 recitations. *U. G. Dubach, R. R. Hewitt*

PS 602. **Business Law.** Class work same as PS 302; special research work required in addition.

For graduate students other than Commerce; second term; 4 credits; 4 recitations. *U. G. Dubach, R. R. Hewitt*

VOCATIONAL COURSES

PS 13. **American Civil Government.** Consideration of national, state, county, and city government in the United States.

Required in Commerce Vocational Curriculum; first year; third term; 3 credits; 4 recitations. Text: Magruder, American Government.
R. R. Hewitt

PS 23. **Business Law.** General principles of contracts, sales, negotiable instruments, bailments, agency, partnership, corporations, and property.

Required in Commerce Vocational Curriculum (second year) and in Mechanic Arts Vocational Curriculum; third term; 3 credits; 3 recitations. Text: Huffcut, Elements of Business Law.
R. R. Hewitt

SCHOOL OF ENGINEERING AND MECHANIC ARTS

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.
GRANT ADELBERT COVELL, M.E., Dean of the School of Engineering and
Mechanic Arts; Professor of Mechanical Engineering.
LILLIAN LALONDE, Secretary to the Dean.

Civil Engineering

STUART HOBBS SIMS, B.S., Professor of Civil Engineering.
HARRY STANLEY ROGERS, B.S. in C.E., Professor of Hydraulics and
Irrigation Engineering.
SAMUEL MICHAEL PATRICK DOLAN, C.E., Associate Professor of Civil
Engineering.
DEXTER RALPH SMITH, B.S., Assistant Professor of Civil Engineering.
BURDETTE GLENN, B.S., Instructor in Civil Engineering.
LESLIE BRIGHAM, B.S., Instructor in Civil Engineering.
GLENN WILLIS HOLCOMB, B.S. in C.E., Instructor in Civil Engineering.
EMORY DOUGLAS ROBERTS, Instructor in Civil Engineering.
EDER CHARLES MATTHEWS, B.S. in C.E., Instructor in Civil Engineering.

Electrical Engineering

RICHARD HAROLD DEARBORN, A.B., M.E., Professor of Electrical Engi-
nering.
LAWRENCE FISHER WOOSTER, B.S.A., Professor of Applied Electricity.
FRED ORVILLE McMILLAN, M.S., Assistant Professor of Electrical
Engineering.
JOHN HARRISON BELKNAP, B.S., Assistant Professor of Electrical
Engineering.
HARRY PALMER CADY, B.S., Instructor in Electrical Engineering.

Highway Engineering

GORDON VERNON SKELTON, C.E., Professor of Highway Engineering.

Industrial Arts

HENRY CLAY BRANDON, A.M., Professor of Industrial Arts; Director
of Shops.
AMBROSE ELLIOTT RIDENOUR, B.S., Instructor in Foundry Practice.
MARTIN LOUIS GRANNING, Instructor in Auto Mechanics.
GLENN HARTMAN HILL, Instructor in Machine Shop.
DONALD KENNETH MEREEN, Instructor in Carpentry and Patternmaking.
WILLIAM HAMILTON HORNING, Instructor in Forging.

Mechanical Engineering

- GRANT ADELBERT COVELL, M.E., Professor of Mechanical Engineering.
WALLACE HOPE MARTIN, M.E., Professor of Heat Engineering.
MARK CLYDE PHILLIPS, B.M.E., Associate Professor of Mechanical Engineering; Superintendent of Heating.
RAY BOALS, B.S., Assistant Professor of Mechanical Engineering.
MORRIS WENK, A.B., E.E., Assistant Professor of Mechanical Engineering.
HARRY LOGAN PRATHER, B.S., Assistant Professor of Mechanical Engineering.
LEM RAYMOND DEPPERMAN, Instructor in Mechanical Engineering.
RALPH DEWITT GLICK, Instructor in Automotive Laboratory.

Mechanics and Materials

- SAMUEL HERMAN GRAF, M.S., Professor of Mechanics and Materials.
CHARLES EDWIN THOMAS, M.E., Assistant Professor of Mechanics and Materials.
IVAN FREDERICK WATERMAN, C.E., Assistant Professor of Mechanics and Materials.
DONALD BRUCE STUART, D.M.D., Superintendent of Light and Power.
CHARLES GEORGE WILTSHIRE, Superintendent of Plumbing.
ALFRED CLINTON HARWOOD, Mechanician, Engineering Laboratory.

*Service Departments**

- MAHLON ELLWOOD SMITH, Ph.D., Dean of the Service Departments; Director of Summer Session.
FREDERICK BERCHTOLD, A.M., Professor of English Language and Literature.
JOHN B. HORNER, A.M., Litt.D., Professor of History.
CHARLES LESLIE JOHNSON, B.S., Professor of Mathematics.
FARLEY DOTY McLOUTH, B.S., Professor of Art.
WILLIAM BALLANTYNE ANDERSON, Ph.D., Professor of Physics.
WILLIBALD WENIGER, Ph.D., Professor of Physics.
CHARLES BUREN MITCHELL, A.M., Professor of Public Speaking.
EDWARD BENJAMIN BEATY, B.S., M.A., Associate Professor of Mathematics.
FREDERICK CHARLES KENT, A.B., Associate Professor of Mathematics.
LOUIS SHERMAN DAVIS, M.S., Associate Professor of Chemistry.
WILLIAM HENRY ELLISON, Ph.D., Associate Professor of History.
GEORGE FRANCIS RICHARDSON, Ph.D., Associate Professor of English.
NICHOLAS TARTAR, B.S., Assistant Professor of Mathematics.

* Here are listed members of other faculties giving instruction open to students in Engineering.

HARRY LYNDEN BEARD, B.S., Assistant Professor of Mathematics.
GERTRUDE EWING McELFRESH, B.S., Instructor in English.
JOHN ALBERT VAN GROOS, M.S., Instructor in Mathematics.
GEORGE REUBEN VARNEY, A.B., D.D., Instructor in Public Speaking.
MCKINLEY HELM, B.S., Instructor in English.
CLAUDE MILTON NEWLIN, B.A., Instructor in English.
ROBERT WAYNE UPHOFF, A.B., Instructor in Physics.
ALBERT WASHINGTON MARKER, A.B., Instructor in Physics.
OSMAN HORACE CADY, M.S., Instructor in Chemistry.
HENRY IRVING WEITZEL, M.S., Instructor in Chemistry.
JACOB JORDAN, A.M., Instructor in Physics.
FRED BUCKNER MORGAN, A.B., B.S., Instructor in Physics.
CHARLOTTE SKINNER TAYLOR, A.B., Instructor in Physics.
ABRAHAM SCHWARTZ, B.S., Instructor in Chemistry.

*Other Schools and Departments**

JOHN ANDREW BEXELL, A.M., Dean of the School of Commerce.
EDWIN DEVORE RESSLER, A.M., Dean of the School of Vocational Education.
ULYSSES GRANT DUBACH, Ph.D., Professor of Government and Business Law.
WILBUR LOUIS POWERS, M.S., Professor of Soils.
FRANK HENRY SHEPHERD, A.M., Professor of Industrial Education.
JESSE FRANKLIN BRUMBAUGH, A.M., LL.B., Professor of Psychology.
FRANCES LAWRENCE SNOW, Professor of Industrial Journalism.
JOSEPH KEPNER PARTELLO, Lieutenant Colonel of Infantry, United States Army, Professor of Military Science and Tactics; Commandant of Cadets.
RICHARD BURR RUTHERFORD, A.B., Professor of Physical Education for Men.
LUCY MAY LEWIS, A.B., B.L.S., Librarian.
HAROLD STEPHENSON NEWINS, M.F., Professor of Forestry.
NEWEL HOWLAND COMISH, M.S., Professor of Economics.
DOUGLAS CLERMONT LIVINGSTON, B.S., Professor of Geology.
FRANK ABBOTT MAGRUDER, Ph.D., Associate Professor of Government and Business Law.
EDWARD FRITCHOFF TORGERSON, B.S., Assistant Professor of Soils.
WILLIAM HENRY DREESEN, Ph.D., Assistant Professor of Economics and Sociology.
LILLIAN MABEL GEORGE, B.L.S., In charge of Continuations Department, Library.
AMBROSE REUBEN NICHOLS, B.S., Instructor in Industrial Education

* Here are listed members of other faculties giving instruction open to students in Engineering.

Curricula. The School of Engineering offers curricula leading to advanced professional degrees, the degree of Bachelor of Science, and a vocational certificate in Mechanic Arts.

Admission. Detailed statements of entrance requirements, routine of registration, etc., are given in the special bulletin on "General Information," which is furnished on application. Requirements for admission to the various curricula of the School of Engineering and Mechanic Arts are as follows:

Degree curricula: Applicants for admission to the curricula leading to the baccalaureate degree must be at least 16 years of age and must have completed 15 units of work in a secondary school recognized as standard, these units to include at least 3 units of English, 1 unit each of Elementary Algebra and Plane Geometry, and $\frac{1}{2}$ unit each of Higher Algebra and Solid Geometry; together with four additional units of English, Mathematics, Foreign Languages, Laboratory Science, and History (including Civics). It is strongly urged that students planning to enter any curriculum in Engineering take one year's work in Physics while in high school.

Graduate curricula: Applicants for admission to advanced courses leading to the degree of C.E., E.E., or M.E., must have completed the requirements for the Bachelor's degree in the corresponding curriculum in the Oregon Agricultural College or other college of equal rank.

Vocational curriculum: Applicants must be at least 16 years of age and have completed a common school course or its equivalent. Applicants over 21 years of age who have not completed a common school course may be admitted upon proof that they are able to carry the work that they may desire to take.

Requirements for Graduation. In each of the four baccalaureate degree curricula offered in the School of Engineering, 207 college credits are required, of which 192 are to be academic credits, 12 are to be credits in military drill, and 3 are to be credits in physical education.

Baccalaureate Degrees. Four-year curricula leading to the degree of Bachelor of Science are offered in the School of Engineering as follows:

A curriculum in Civil Engineering, with senior options in Civil Engineering, Highway Engineering, Irrigation Engineering, and Structural Engineering.

A curriculum in Electrical Engineering.

A curriculum in Industrial Arts.

A curriculum in Mechanical Engineering.

Advanced Degrees. The professional degree of Civil Engineer, Electrical Engineer, or Mechanical Engineer, is offered to graduates

of the College, or other colleges of equal rank, who have attained the degree of Bachelor of Science in the corresponding engineering curriculum, and met the College requirements for graduate study. See the special bulletin on "General Information." These requirements specify one full year of resident work amounting to 48 college credits, including an acceptable thesis.

Vocational Curriculum. A one-year vocational curriculum in Mechanic Arts is offered. The purpose of this curriculum is to assist those who expect to make their way in the world by their manual skill in some line of industrial activity, and who, though unable to take the degree curriculum of the College, desire vocational training in special lines and at the same time the broadening influence of education in English, mathematics, and elementary science.

The shops are equipped with the latest approved machinery suited to carry on these practical courses.

A student who has completed one year of work as outlined on page 20 is entitled to a certificate. Eighteen credits must be in one of the following subjects: Woodworking (Patternmaking, Carpentry, or Cabinetmaking), Machine Shop Practice, Blacksmithing, Foundry Practice, Auto Mechanics.

Graduate Short Course in Highway Engineering. During the second term, 1921-22, this Short Course in Highway Engineering is given by the department of Highway Engineering in cooperation with the departments of Civil Engineering and Mechanics and Materials, and is intended for graduate engineers who wish to specialize in some line of highway work, or for others properly prepared. The purpose of the Short Course is to review the principles and current practice of Highway Engineering.

The various courses are complete in themselves and any one course may be taken without the others if the applicant's preparation is suitable for that course. Instruction will be given by means of lectures, assigned reading, and laboratory practice. Special lectures by non-resident engineers will be provided where possible. No classes will be formed unless a sufficient number of students apply. During the year 1922 classes will not be arranged for more than 16 credit hours a week.

Those intending to take the Short Course should write Professor Skelton in advance.

The courses offered, with number of periods a week, are as follows: Road Design (2), Construction of Roads (3), Highway Bridges (3), Highway Laboratory (3), Street Design and Construction (3), Reinforced Concrete Highway Structures (3), Contracts and Specifications (3), Hydraulics of Highway Drainage and Construction (1).

DEGREE CURRICULUM IN CIVIL ENGINEERING

Freshman Year

| | 1st | Term | |
|--|------------------------|------------------------|------------------------|
| | | 2d | 3d |
| Engineering Drawing (CE 111, 112, 113)..... | 3 | 3 | 3 |
| Plane Surveying (CE 121, 122, 123)..... | 5 | 4 | 5 |
| Engineering Physics (Ph 111, 112, 113)..... | 3 | 3 | 3 |
| Trigonometry (Mth 111), Elementary Analysis (Mth 131, 132) | 4 | 4 | 4 |
| Freshman Engineering (CE 101, 102, 103)..... | --- | 1* | --- |
| Gymnasium (PEm 111, 112, 113)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Sophomore Year

| | | | |
|--|------------------------|------------------------|------------------------|
| Differential and Integral Calculus (Mth 251, 252, 253) | 4 | 4 | 4 |
| General Chemistry (Ch 101, 102, 103)..... | 3 | 3 | 3 |
| General Geology (G 202)..... | --- | 3 | --- |
| Curves and Earthwork (CE 231)..... | 5 | --- | --- |
| Engineering Location (CE 232)..... | --- | 2 | --- |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| Steam and Gas Machinery (ME 226)..... | --- | --- | 5 |
| Gymnasium (PEm 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Junior Year

| | | | |
|--|----------|----------|----------|
| Mechanics (MM 351, 352)..... | 3 | --- | 3 |
| Strength of Materials (MM 353)..... | --- | 3 | --- |
| Materials of Engineering (MM 311)..... | --- | 3 | --- |
| Hydraulics (CE 341, 342, 343)..... | 4 | 3 | 4 |
| Masonry and Foundations (CE 372)..... | --- | 3 | --- |
| Structural Analysis (CE 381)..... | --- | --- | 5 |
| Roads and Pavements (HE 313)..... | 5 | --- | --- |
| Introduction to Economics (ES 391)..... | 3 | --- | --- |
| Principles of Accounting (BA 101)..... | --- | 3 | --- |
| Industrial Organization and Management (BA 381)..... | --- | --- | 3 |
| Electives | 2 | 2 | 2 |
| | <hr/> 17 | <hr/> 17 | <hr/> 17 |

* For CE 101, 102, 103, which run through all three terms, one-third credit is given each term.

Senior Year

(Civil Engineering Option)

| | 1st | Term 2d | 3d |
|---|-------|------------|-------|
| Structural Engineering (CE 482, 483, 484)..... | 4 | 5 | 4 |
| Hydraulic Machinery (CE 441)..... | 4 | ..... | ..... |
| Seminar (CE 494, 495, 496)..... | 1 | 1 | 1 |
| Reinforced Concrete (CE 471)..... | 3 | ..... | ..... |
| Technical Electricity (EE 251)..... | ..... | 3 | ..... |
| Electrical Machinery (EE 252)..... | ..... | ..... | 3 |
| Contracts and Specifications (HE 427)..... | ..... | 3 | ..... |
| Reclamation Engineering (CE 461)..... | ..... | ..... | 4 |
| ①Introduction to Economics (ES 391)..... | 3 | ..... | ..... |
| ①Industrial Organization and Management (BA 381)..... | ..... | 3 | ..... |
| ①Technical Journalism (IJ 330) or Extempore Speaking (PSP 254)..... | ..... | ..... | 3 |
| Electives | 2 | 2 | 2 |
| | 17 | 17 | 17 |

Senior Year

(Highway Engineering Option)

| | | | |
|---|-------|-------|-------|
| ①Introduction to Economics (ES 391)..... | ..... | 3 | ..... |
| ①Industrial Organization and Management (BA 381)..... | ..... | ..... | 3 |
| Structural Engineering (CE 482, 483, 484)..... | 4 | 5 | 4 |
| Contracts and Specifications (HE 427)..... | ..... | ..... | 3 |
| Highway Engineering (HE 411, 412, 413)..... | 4 | 3 | 4 |
| Highway Materials Laboratory (MM 426)..... | ..... | 3 | ..... |
| Economics of Highway Construction (HE 416)..... | 3 | ..... | ..... |
| Reinforced Concrete (CE 472)..... | 3 | ..... | ..... |
| Seminar (CE 494, 495, 496)..... | 1 | 1 | 1 |
| Electives | 2 | 2 | 2 |
| | 17 | 17 | 17 |

Senior Year

(Reclamation Engineering Option)

| | | | |
|--|-------|-------|-------|
| Hydraulic Machinery (CE 441)..... | 4 | ..... | ..... |
| Municipal Water Supply (CE 452)..... | ..... | 4 | ..... |
| Reclamation Engineering (CE 461)..... | ..... | ..... | 4 |
| Soil Physics Elective (SIs 422)..... | 3 | ..... | ..... |
| Irrigation Farming Elective (SIs 312)..... | ..... | 2 | ..... |
| Soil Surveying (SIs 427)..... | ..... | ..... | 3 |
| Structural Engineering (CE 482, 483, 484)..... | 4 | 5 | 4 |
| ①Introduction to Economics (ES 391)..... | 3 | ..... | ..... |
| ①Industrial Organization and Management (BA 381)..... | ..... | 3 | ..... |
| ①Technical Journalism (IJ 330) or Extempore Speaking (PSP 254) ..... | ..... | ..... | 3 |
| Seminar (CE 494, 495, 496)..... | 1 | 1 | 1 |
| Electives | 2 | 2 | 2 |
| | 17 | 17 | 17 |

①These courses to be given in junior year after 1921-22.

Senior Year

(Structural Engineering Option)

| | 1st | Term | |
|--|------|------|------|
| | | 2d | 3d |
| Structural Engineering (CE 482, 483, 484)..... | 4 | 5 | 4 |
| Structural Analysis (CE 485, 486)..... | 4 | 3 | .... |
| Reinforced Concrete (CE 471)..... | 3 | .... | .... |
| Structural Laboratory (MM 427)..... | .... | .... | 4 |
| Technical Electricity (EE 251)..... | .... | 3 | .... |
| Electrical Machinery (EE 252)..... | .... | .... | 3 |
| Contracts and Specifications (HE 427)..... | .... | 3 | .... |
| Seminar (CE 494, 495, 496)..... | 1 | 1 | 1 |
| ①Introduction to Economics (ES 391)..... | 3 | .... | .... |
| ①Industrial Organization and Management (BA 381).... | .... | .... | 3 |
| Electives | 2 | 2 | 2 |
| | 17 | 17 | 17 |

DEGREE CURRICULUM IN ELECTRICAL ENGINEERING**Freshman Year**

| | 1st | Term | |
|---|------------------|---------------|---------------|
| | | 2d | 3d |
| Elements of Electricity (EE 101, 102, 103)..... | 3 | 3 | 3 |
| Plane Trigonometry (Mth 111), Elementary Analysis (Mth 131, 132) | 4 | 4 | 4 |
| Engineering Physics (Ph 111, 112, 113)..... | 3 | 3 | 3 |
| Library Practice (Lib 100)..... | 1 | .... | .... |
| Engineering Survey (ME 101, 102)..... | .... | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Mechanical Drawing (ME 111, 112) or (ME 112, 114).... | 2 | 2 | .... |
| Descriptive Geometry (ME 113)..... | .... | .... | 3 |
| Woodwork (IA 121), Blacksmithing (IA 152), Mach- ine Shop (IA 262) | 2 | 2 | 2 |
| Gymnasium (PEM 111, 112, 113)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | 17 $\frac{1}{2}$ | 17 | 18 |

Sophomore Year

| | | | |
|--|------------------|------------------|------------------|
| Introduction to Electrical Engineering (EE 201, 202, 203) | 3 | 3 | 3 |
| Differential, Integral Calculus (Mth 251, 252, 253).. | 4 | 4 | 4 |
| General Chemistry (Ch 101, 102, 103)..... | 3 | 3 | 3 |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| Machine Shop (IA 263)..... | 2 | .... | .... |
| Plane Surveying (CE 124, 127)..... | .... | 2 | 2 |
| Gymnasium (PEM 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ |

①These courses to be given in junior year after 1921-22.

Junior Year

| | Term | | |
|--|----------|----------|----------|
| | 1st | 2d | 3d |
| Electrical Engineering (EE 301, 302, 303)..... | 3 | 3 | 3 |
| Electrical Laboratory (EE 321, 322, 323)..... | 3 | 3 | 3 |
| Mechanics (MM 351, 352)..... | 3 | 3 | --- |
| Strength of Materials (MM 353)..... | --- | --- | 3 |
| Steam Machinery (ME 328)..... | 3 | --- | --- |
| Steam Turbines (ME 329)..... | --- | 3 | --- |
| Steam Power Plants (ME 339)..... | --- | --- | 3 |
| Hydraulics (CE 344)..... | 3 | --- | --- |
| Hydraulic Power Plants (CE 346)..... | --- | 3 | --- |
| Materials of Engineering (MM 311)..... | --- | --- | 3 |
| Electives | 2 | 2 | 2 |
| | <hr/> 17 | <hr/> 17 | <hr/> 17 |

Senior Year

| | | | |
|---|----------|----------|----------|
| Electrical Engineering (EE 401, 402, 403)..... | 4 | 4 | 4 |
| Electrical Laboratory (EE 421, 422)..... | 3 | 3 | --- |
| Electric Lighting (EE 431)..... | 2 | --- | --- |
| Electrical Railways (EE 432)..... | --- | 2 | --- |
| Electrical Signaling (EE 433)..... | --- | --- | 2 |
| Introduction to Economics (ES 391)..... | 3 | --- | --- |
| Industrial Organization and Management (BA 381)..... | --- | 3 | --- |
| National Government (PS 301), or State and Local Government (PS 302)..... | --- | --- | 3 |
| Trusses and Towers (CE 489)..... | 3 | --- | --- |
| Electric Utilities (EE 442)..... | --- | 3 | --- |
| Extempore Speaking (PSP 254)..... | --- | --- | 3 |
| High Voltage Engineering (EE 453), Railway Electrifi- cation (EE 443), or Thesis (EE 491)..... | --- | --- | 3 |
| Electives | 2 | 2 | 2 |
| | <hr/> 17 | <hr/> 17 | <hr/> 17 |

DEGREE CURRICULUM IN INDUSTRIAL ARTS

Freshman Year

| | Term | | |
|--|------------------------|------------------------|------------------------|
| | 1st | 2d | 3d |
| Shop Drawing (IA 191, 192, 193)..... | 2 | 2 | 2 |
| Manual Training (IA 111, 112, 113)..... | 3 | 3 | 3 |
| General Chemistry (Ch 101, 102, 103)..... | 3 | 3 | 3 |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| Commercial Geography (ES 101)..... | 4 | --- | --- |
| Trigonometry (Mth 111)..... | --- | 4 | --- |
| Gymnasium (PEM 111, 112, 113)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| Approved electives | --- | --- | 4 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Sophomore Year

| | Term | | |
|---|------------------|------------------|------------------|
| | 1st | 2d | 3d |
| Ind. Arts Drawing (A 211), Ind. Arts Design (A 221) | 2 | 2 | --- |
| Patternmaking (IA 213) | 3 | --- | --- |
| Early American (Hst 121), Recent (Hst 122), American Diplomatic History (Hst 421) | 3 | 3 | 3 |
| Engineering Physics (Ph 111, 112, 113) | 3 | 3 | 3 |
| Mill Work (IA 223) | --- | 3 | --- |
| Carpentry (IA 222) | --- | --- | 3 |
| Gymnasium (PEM 111, 112, 113) | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 2 | 2 | 2 |
| Approved electives | 4 | 4 | 6 |
| | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ |

Junior Year

| | | | |
|---|-----|-----|-----|
| Tool Making (IA 254) | --- | --- | 2 |
| Forging (IA 351) | 3 | --- | --- |
| Elementary Psychology (Psy 301) | 3 | --- | --- |
| Elementary Mechanical Drawing (ME 111, 112) | 2 | 2 | --- |
| Descriptive Geometry (ME 113) | --- | --- | 3 |
| Hammered Metal Work (IA 352) | --- | 3 | --- |
| Introduction to Education (Ed 302) | --- | 3 | --- |
| Foundry (IA 242) | 3 | --- | --- |
| Wood Turning (IA 333) | --- | 2 | --- |
| Educational Psychology (Psy 322) | --- | --- | 3 |
| Commercial Woods (F 334) | --- | --- | 3 |
| Approved electives | 6 | 7 | 6 |
| | 17 | 17 | 17 |

Senior Year

| | | | |
|---|-----|-----|-----|
| Machine Shop (IA 461, 462) | 3 | 3 | --- |
| Introduction to Economics (ES 391) | 3 | --- | --- |
| Special Methods in Manual Training (IEd 343) | 4 | --- | --- |
| Materials of Engineering (MM 311) | 3 | --- | --- |
| Advanced Mechanical Drawing (ME 315) | --- | 3 | --- |
| Industrial Organization and Management (BA 381) | --- | 3 | --- |
| Vocational Education (Ed 323) | --- | 2 | --- |
| Hydraulics (CE 345) | --- | 3 | --- |
| Auto Mechanics (IA 182) | --- | --- | 3 |
| National Government (PS 301) or State and Local Government (PS 302) | --- | --- | 3 |
| Practice Teaching in Manual Training (IEd 421) | --- | --- | 5 |
| Theory and Practice of Elementary Manual Arts (IEd 382) | --- | --- | 3 |
| Electives | 4 | 3 | 3 |
| | 17 | 17 | 17 |

DEGREE CURRICULUM IN MECHANICAL ENGINEERING

Freshman Year

| | Term | | |
|---|------------------------|---------------|---------------|
| | 1st | 2d | 3d |
| Engineering Physics (Ph 111, 112, 113)..... | 3 | 3 | 3 |
| Plane Trigonometry (Mth 111), Elementary Analysis (Mth 131, 132)..... | 4 | 4 | 4 |
| Patternmaking (IA 212), Foundry Practice (IA 141), Blacksmithing (IA 152)..... | 2 | 2 | 2 |
| Mechanical Drawing (ME 111, 112) or (ME 112, 114)..... | 2 | 2 | .... |
| Descriptive Geometry (ME 113)..... | .... | .... | 3 |
| Elements of Heat Engineering (ME 121)..... | 3 | .... | .... |
| Gas Engines (ME 124), or Steam Engines (ME 122)..... | .... | 3 | 3 |
| Engineering Survey (ME 101, 102)..... | .... | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Library Practice (Lib 100)..... | 1 | .... | .... |
| Gymnasium (PEM 111, 112, 113)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 | <hr/> 18 |

Sophomore Year

| | | | |
|--|------------------------|------------------------|------------------------|
| Differential, Integral Calculus (Mth 251, 252, 253).... | 4 | 4 | 4 |
| Tool Making and Tempering (IA 254), Machine Shop (IA 262, 263)..... | 2 | 2 | 2 |
| General Chemistry (Ch 101, 102, 103)..... | 3 | 3 | 3 |
| Plane Surveying (CE 226)..... | 3 | .... | .... |
| Heat Engineering (ME 221, 222)..... | .... | 3 | 3 |
| Technical Electricity (EE 251)..... | 3 | .... | .... |
| Electrical Machinery (EE 252)..... | .... | 3 | .... |
| Mechanism (ME 211)..... | .... | .... | 3 |
| Gymnasium (PEM 111, 112, 113)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Junior Year

| | | | |
|--|----------|----------|----------|
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| Machine Design (ME 312, 313, 314)..... | 3 | 3 | 3 |
| Mechanics (MM 351, 352)..... | 3 | 3 | .... |
| Strength of Materials (MM 353)..... | .... | .... | 3 |
| Hydraulics (CE 345)..... | .... | 3 | .... |
| Hydraulic Machinery (CE 347)..... | .... | .... | 3 |
| Materials of Engineering (MM 312)..... | 4 | .... | .... |
| Gas Engines (ME 325)..... | 2 | .... | .... |
| Steam Turbines (ME 322)..... | .... | 3 | .... |
| Structural Analysis (CE 387)..... | .... | .... | 3 |
| Electives | 2 | 2 | 2 |
| | <hr/> 17 | <hr/> 17 | <hr/> 17 |

Senior Year

| | 1st | Term | |
|--|-------|-------|-------|
| | | 2d | 3d |
| Introduction to Economics (ES 391)..... | 3 | ..... | ..... |
| Industrial Organization and Management (BA 381)..... | ..... | 3 | ..... |
| National Government (PS 301)..... | ..... | ..... | 3 |
| Power Plant Engineering and Design (ME 415, 416).... | 5 | 5 | ..... |
| Engineering Laboratory (ME 451, 452, 543)..... | 3 | 3 | 3 |
| Wood and Steel Structures (CE 488)..... | 3 | ..... | ..... |
| Reinforced Concrete and Foundation Design (CE 473)... | ..... | 3 | ..... |
| Contracts and Specifications (HE 427)..... | ..... | ..... | 3 |
| Heating and Ventilation (ME 465)..... | ..... | ..... | 3 |
| Seminar (ME 481, 482)..... | 1 | 1 | ..... |
| Technical Journalism (IJ 330), or Public Speaking (PSP 251) ..... | ..... | ..... | 3 |
| Electives | 2 | 2 | 2 |
| | 17 | 17 | 17 |

VOCATIONAL CURRICULUM IN MECHANIC ARTS

(See pages 13, 42-45)

| | 1st | Term | |
|--|------------------|------------------|------------------|
| | | 2d | 3d |
| Shop work according to trade selected..... | 6 | 6 | 6 |
| Vocational Drawing (ME 11, 12, 13)..... | 2 | 2 | 2 |
| Algebra (Mth 21)..... | 4 | ..... | ..... |
| Plane Geometry (Mth 81 or 82)..... | ..... | 4 | ..... |
| Shop Arithmetic (Mth 94)..... | ..... | ..... | 4 |
| English or other approved electives..... | 3 | 3 | 3 |
| Gymnasium (PEM 11, 12, 13)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ |

NUMBERING AND ARRANGEMENT OF DESCRIPTIONS
OF COURSES IN THIS CATALOGUE

Courses in degree curricula are designated by numbers of three digits in which the left-hand digit represents usually the year (as first, second, third, etc.) in which the course is normally pursued; the middle digit represents the group of related courses in the department to which the course belongs; and the right-hand digit represents the sequence of courses in cases where courses normally follow each other in succeeding terms. Courses in vocational curricula are numbered with two digits, the first generally representing the year in which the course is pursued, the second the sequence of the course.

Under each department descriptions of vocational courses are printed immediately after the descriptions of collegiate courses.

CIVIL ENGINEERING

Graduates in Civil Engineering who enter that field are expected to render service in some one or more of its many subdivisions. Some of these are the location, construction, maintenance, operation, and oftentimes the appraisal of water supply, irrigation, water-power, railroad, highway, and similar transportation systems; the development and improvement of cities and of rivers and harbors; the design and construction of foundations and of the steel, concrete, or wooden structures which they support. Many graduates enter upon business careers.

After more than a generation of experience, engineering educators and engineers are pretty well agreed that the engineering school can serve best by providing for the development of character and appreciation, and by giving thorough grounding in the fundamentals of science and business.

Curriculum. In preparing the degree curriculum in Civil Engineering the aim has been to give the student ample opportunity to learn thoroughly the fundamental principles of mathematics, physics, and business; and to understand some of the applications of these principles to the solution of practical problems.

Optional courses in Highway, Reclamation, and Structural Engineering are offered in the senior year for those desiring to secure a slightly greater degree of specialization.

Pedagogy. The pedagogy of the courses has been given no less thought than the curriculum. Specific objects in all basic courses are to drive home the physical meanings of forces, velocities, stresses, and deformations; to convey knowledge of the rational methods of analysis for determining the magnitudes of forces, velocities, stresses, and deformations; to convey knowledge of the empirical modifications of incomplete rational analysis; and to develop facility in the application of fundamentals to new problems. In all applied courses the specific objects are to give a knowledge of the current practices in the various phases of civil engineering, to teach the student to recognize the fundamentals underlying these practices and to develop judgment in the application of specific practices to specific conditions. The general objects in all courses are the development of effective personal qualities and business habits; scientific and personal honesty, courage, loyalty, cheerfulness; effective methods of analyzing, recording, and presenting; the development of an appreciation of relative values in the business and professional world; and the inculcation of professional ideals.

Equipment. The department is provided with excellent quarters, and equipment for performing its work thoroughly and efficiently. The entire third floor of Apperson Hall, a large portion of the Engineering Laboratory, and a large room on the ground floor of Mechanic Arts Building are devoted to the uses of the department.

The quarters in Apperson Hall are used for classrooms, drawing and designing rooms, and offices. All are of sufficient size, are well lighted, and thoroughly equipped with modern equipment, including drafting machines, railroad curves, beam compasses, planimeters, pantographs, and the like, in addition to an excellent collection of maps and plans for illustrative purposes.

The instrument room is located on the ground floor of Mechanic Arts Building. The equipment consists of twenty-six transits, twenty-five levels, sixteen plane tables, together with an adequate supply of stadia, level, and line rods, hand levels, tapes, and all of the necessary minor equipment. Each of the instruments is of high-grade American make and is kept in its individual locker with all of the necessary small equipment sufficient to outfit a surveying party.

The hydraulic laboratory occupies the middle third of two floors of the new Engineering Laboratory. It is equipped with storage tanks, adequate facilities for measuring the flow and pressure of water, and a variety of pumps and turbines.

The major equipment consists of two storage tanks of 1500 cubic feet capacity from which two 8-inch Pelton centrifugal pumps, so interconnected as to operate either in series or parallel, and driven by 40-horse-power motors, discharge water through a Ventri meter into a pressure tank. The flow from the pressure tank may be discharged either through a Pelton impulse water wheel, designed to develop 16-horse-power and equipped with a prony brake for testing, or through a horizontal, single-discharge Pelton Francis turbine of the spiral encased type arranged to carry a prony brake. The turbines discharge into one of two weir-tanks of approximately 750 cubic feet capacity, from which the flow passes to a distributing hopper that discharges into either of two large-capacity weighing tanks and thence returns to the storage tanks.

The minor equipment consists of a storage tank of 850 cubic feet capacity, measuring tanks, pipe set-ups for determining losses, orifices, weirs, displacement and Ventri meters, manometers, hydraulic ram, several single- and triple-stage centrifugal pumps, several displacement pumps, 12-inch Doble laboratory water motor, and a vertical-shaft water wheel.

In addition, use is made of the Mechanical and Electrical Engineering laboratories and the Materials Testing laboratory.

COURSES

CE 101, 102, 103. **Freshman Engineering.** A series of lectures by members of the College Faculty, notable engineers, and others. Designed to acquaint the student with the field of engineering, and to further the development of his appreciation of the world in which he lives.

Required in Civil and Highway Engineering; first, second, and third terms; $\frac{1}{3}$ credit each term; 1 lecture. *S. H. Sims*

CE 111. **Engineering Drawing.** Theoretical instruction and drafting-room practice in the use and care of drawing instruments; principles of orthographic projection; use of standard conventional symbols; practice in free-hand lettering.

Required in Civil and Highway Engineering; freshman year; first term; 3 credits; 1 lecture; 8 hours laboratory instruction. Fee \$1.50. Text: French, Engineering Drawing. *D. R. Smith*

CE 112. **Engineering Drawing.** A continuation and extension of CE 111, including a series of graded practice plates in orthographic and isometric projection, topographic drawing, sketching, etc.

Prerequisite: CE 111. Required in Civil and Highway Engineering; freshman year; second or third term; 3 credits; 1 lecture; 8 hours laboratory instruction. Fee \$1.50. Text: French, Engineering Drawing. *D. R. Smith*

CE 113. **Drawing and Descriptive Geometry.** Theoretical instruction and drafting-room practice in projection of lines, points, surfaces, and solids.

Prerequisite: CE 112. Required in Civil and Highway Engineering; freshman year; first, second, or third term; 3 credits; 1 lecture; 8 hours laboratory instruction. Fee \$1.50. Text: Higbee, Essentials of Descriptive Geometry. *D. R. Smith*

CE 121. **Plane Surveying.** Theory, use, and adjustment of level and transit. Measurement and subdivision of land.

Required in Civil and Highway Engineering and Landscape Gardening (freshman year) and in Mining Engineering (sophomore year); first or third term; 5 credits; 2 recitations; 9 hours field work. Fee \$1.00. Text: Breed and Hosmer, Elementary Surveying. *G. Holcomb, E. C. Matthews*

CE 122. **Plane Surveying.** A continuation of CE 121. A study of surveying problems as related to subdivision of public land, farm, and city surveying; special problems and methods; further practice in use of instruments; note-keeping.

Prerequisite: CE 121. Required in Civil and Highway Engineering and Landscape Gardening; freshman year; second term; 4

credits; 2 recitations; 6 hours field work. Fee \$1.00. Text: Breed and Hosmer, *Elementary Surveying*. *G. Holcomb, E. C. Matthews*

CE 123. **Plane Surveying.** Use of stadia and of plane table; topographical mapping and drawing; determination of meridian by stellar and by solar observation.

Prerequisite: CE 122. Required in Civil and Highway Engineering; freshman year; third term; 5 credits; 2 recitations; 9 hours field work. Fee \$1.25. Text: Breed and Hosmer, *Higher Surveying*. *G. Holcomb, E. C. Matthews*

CE 124. **Plane Surveying.** Theory, use, and adjustments of tape, compass, and level.

Required in Electrical Engineering (sophomore year) and in Forestry and Logging Engineering (freshman year); second term; 2 credits; 1 recitation; 3 hours field work. Fee \$1.00. Text: Breed and Hosmer, *Elementary Surveying*.

S. M. Dolan, E. C. Matthews, E. D. Roberts

CE 125. **Plane Surveying.** Theory, use, and adjustments of tape, compass, and level.

Required in Forestry and Logging Engineering; freshman year; second term; 3 credits; 1 recitation; 6 hours field work. Fee \$1.00. Text: Breed and Hosmer, *Elementary Surveying*.

S. M. Dolan, E. C. Matthews, E. D. Roberts

CE 126. **Plane Surveying.** A continuation of CE 124. Theory, use, and adjustment of transit. Measurement and subdivision of land.

Prerequisite: CE 125. Required in Forestry and Logging Engineering; freshman year; third term; 5 credits; 2 recitations; 9 hours field work. Fee \$1.00. Text: Breed and Hosmer, *Elementary Surveying*, Vol. I.

S. M. Dolan, E. C. Matthews, E. D. Roberts

CE 226. **Plane Surveying.** Theory, use, and adjustment of engineer's level and transit.

Required in Mechanical Engineering; sophomore year; first term; 3 credits; 1 recitation; 6 hours field work. Fee \$1.00. Text: Breed and Hosmer, *Elementary Surveying*.

CE 227. **Plane Surveying.** A continuation of CE 124. Theory, use, and adjustment of transit.

Prerequisite: CE 124. Required in Electrical Engineering; sophomore year; third term; 2 credits; 1 recitation; 3 hours field work. Fee \$1.00. Text: Breed and Hosmer, *Elementary Surveying*.

CE 228. **Topographical Surveying.** Surveying and mapping. Care and use of engineer's level, stadia, transit, and plane table.

Prerequisite: CE 125. Required in Forestry and Logging Engineering; sophomore year; first term; 5 credits; 2 recitations; 9 hours field work. Fee \$1.00. Text: Breed and Hosmer, Higher Surveying.

CE 229. **Precise Surveying and Geodesy.** Instruction in precise leveling, triangulation, base line measurement, stellar and solar observations.

Prerequisite: CE 123. Elective after freshman year; any term; 3 credits; 1 recitation; 6 hours field work. Fee \$1.00.

CE 231. **Curves and Earthwork.** Instruction in circular, compound, casement, and vertical curves as related to railroads, highways, and canals; earthwork measurement and computation.

Prerequisite: CE 123. Required in Civil and Highway Engineering; sophomore year; first term; 5 credits; 2 recitations; 9 hours field work. Fee \$1.00. Text: Raymond, Railroad Field Geometry.

S. M. Dolan, E. D. Roberts

CE 232. **Engineering Location.** Complete survey of a transportation or canal line; reconnaissance, preliminary, and location surveys; estimates of quantities.

Prerequisite: CE 231. Required in Civil and Highway Engineering; sophomore year; second term; 2 credits; 7 hours field work. Fee \$1.00. Text: Nagle, Field Manual for Railroad Engineers.

S. M. Dolan, E. D. Roberts

CE 341. **Hydraulics.** A study of precipitation and run-off; field studies in standard methods of measurement.

Required in Civil and Highway Engineering; junior year; first term; 4 credits; 2 recitations; 6 hours field and laboratory work. Fee \$1.00.

CE 342. **Hydraulics.** A study of the principles underlying pressure and flow of water; laboratory measurements of pressure and flow.

Prerequisite: CE 341. Required in Civil and Highway Engineering; junior year; second term; 3 credits; 2 recitations; 3 hours laboratory work. Fee \$1.00.

H. S. Rogers

CE 343. **Hydraulics.** A continuation of CE 342; a study of the impulse and reactions of jets and energy of water.

Prerequisite: CE 343. Required in Civil and Highway Engineering; junior year; third term; 4 credits; 2 recitations; 6 hours laboratory work. Fee \$1.00.

H. S. Rogers

CE 344. **Hydraulics.** A study of the principles underlying and laboratory measurements of the pressure, flow, and energy of water.

Required in Electrical and Mining Engineering; junior year; first term; 3 credits; 2 recitations; 6 hours laboratory work. Fee \$1.00.

CE 345. Hydraulics. A course similar to CE 344 for students in Mechanical Engineering.

Required in Mechanical Engineering (junior year); and Industrial Arts (senior year); second term; 3 credits; 2 recitations; 3 hours laboratory work. Fee \$1.00.

CE 346. Hydraulic Power Plants. A study of the application of the principles of hydraulics to power production in hydroelectric plants; stream flow, dams, head works, pipe lines, wheels, and speed regulation.

Prerequisite: CE 344. Required in Electrical Engineering; junior year; second term; 3 credits; 2 recitations; 3 hours laboratory work. Fee \$1.00.

CE 347. Hydraulic Machinery. A study of the application of the principles of hydraulics to the design of pumps and turbines and the layout of pumping and power plants.

Prerequisite: CE 345 or 346. Required in Mechanical Engineering; junior year; third term; 3 credits; 2 recitations; 3 hours laboratory work. Fee \$1.00.

CE 348. Hydraulic Laboratory. A study of the principles underlying pressure and flow of fluids and methods of measurement; laboratory measurements of pressure and flow.

Required in Chemical Engineering; junior year; second term; 1 recitation; 6 hours laboratory work. Fee \$1.00.

CE 372. Masonry and Foundations. Study and design of masonry foundations, walls, piers, dams, and arches.

Required in Civil and Highway Engineering; junior year; second term; 3 credits; 2 recitations; 3 hours laboratory work. Fee \$1.50. Text: Baker, *A Treatise on Masonry Construction*.

S. H. Sims, B. Glenn

CE 381. Structural Analysis. Graphical and algebraic analysis of simple roof and bridge structures.

Prerequisite: MM 351. Required in Civil and Highway Engineering; junior year; third term; 5 credits; 3 recitations; 6 hours laboratory work. Fee \$1.50. Text: Johnson, Bryan, Turneure, *Modern Framed Structures*. Vol. I.

S. H. Sims, B. Glenn

CE 387. Structural Analysis. Analysis of roof trusses.

Prerequisite: MM 351. Required in Mechanical Engineering; junior year; third term; 3 credits; 2 recitations; 3 hours laboratory work. Fee \$1.00. Text: Johnson, Bryan, Turneure, *Modern Framed Structures*, Vol. I.

S. H. Sims, B. Glenn

CE 433. Railroad Engineering. A study of methods in railway construction, maintenance, and valuation, of standard structures, trestles, tunnels, culverts, minor bridges, ballast, rails and rail fastenings, yards, terminals, etc.

Prerequisite: CE 232. Required in Civil and Highway Engineering; senior year; third term; 5 credits; 2 recitations; 9 hours laboratory practice. Fee \$1.00. Text: Raymond, Elements of Railroad Engineering.

S. M. Dolan, E. D. Roberts

CE 441. Hydraulic Machinery. Operation, characteristics, efficiency, theory, design, and installation of pumps and turbines; laboratory studies.

Prerequisite: CE 343. Required in Civil and Reclamation Engineering options; senior year; first term; 4 credits; 2 recitations; 6 hours laboratory work. Fee \$1.00.

H. S. Rogers

CE 442. Hydraulic Structures. Design and selection of structures for the storage, conveyance, distribution, control, and measurement of water.

Prerequisites: CE 343, 483. Elective in Reclamation Engineering option; senior year; third term; 4 credits; 2 recitations; 6 hours laboratory work. Fee \$1.00.

H. S. Rogers

CE 443. Water Power Engineering. Development of water-power; storage and load factor; characteristics of modern turbines; selection of turbines; practical problems in design.

Prerequisite: CE 343. Elective for seniors or graduates; senior year; second term; 3 credits; 1 recitation; 6 hours laboratory work. Fee \$1.00.

H. S. Rogers

CE 444. Hydraulics. Practical application of the principles of hydraulics to irrigation farming, especially for agricultural students; pressure in tanks, pipes, and flumes; measurement of water by weirs, orifices, and current meters; losses of head in pipes; design of open channels; seepage losses; operation of pumps and other lifting devices..

Elective in Agriculture; senior year; first term; 3 credits; 3 lectures.

CE 445. Hydraulic Laboratory. A laboratory study of the pressure, flow, measurement, and pumping of water.

Elective in Soils; senior year; second term; 2 credits; 6 hours laboratory work. Fee \$1.00.

CE 451. Water Supply and Sewerage. A study of the quality of water and works for its collection, purification, and distribution; a study of the amount of sewage and works for its removal and disposal; design problems.

Senior year, Civil Engineering. (Not given in 1921-22.)

CE 452. Municipal Water Supply. A study of the demand, supply, and quality of water for domestic purposes and the design of works for the collection, purification, and distribution of water.

Prerequisite: CE 343. Required in Reclamation Engineering option; senior year; first term; 4 credits; 2 recitations; 6 hours laboratory work. Fee \$1.00. *H. S. Rogers*

CE 461. Reclamation Engineering. Preliminary investigations and design of drainage and irrigation systems.

Prerequisite: CE 343. Required in Civil and Reclamation Engineering options; senior year; third term; 4 credits; 2 recitations; 6 hours laboratory work. Fee \$1.00.

CE 462. Irrigation Operation. Operation and maintenance of irrigation systems; protection of canals; maintenance of structures; delivery of water; organization; financial phases of operation.

Prerequisite: CE 444 or 445. Elective in Reclamation Engineering option; required of Agricultural students majoring in Soils; 3 credits; 3 recitations.

CE 471. Reinforced Concrete. Study and design of slabs, beams, and columns of reinforced concrete.

Prerequisite: MM 353. Required in Civil and Structural Engineering in 1921-22; junior year; first term; 3 credits.

CE 472. Reinforced Concrete. Study and design of continuous beams, flat slabs, retaining walls, bridges, and arches.

Prerequisite: CE 471. Required in Highway Engineering; senior year; first term; 3 credits; 1 recitation; 6 hours laboratory work. Fee \$1.50. Text: Hool, Reinforced Concrete Construction, Vols. I, II. *S. H. Sims*

CE 473. Reinforced Concrete and Foundation Design. Fundamental principles of reinforced concrete applied to design of power stations and machinery beds.

Prerequisite: MM 353. Required in Mechanical Engineering; senior year; second term; 3 credits; 1 recitation; 6 hours laboratory work. Fee \$1.50. Text: Hool, Reinforced Concrete Construction, Vol. I. *S. H. Sims, B. Glenn*

CE 482. Structural Engineering. Continuation of CE 381. Study of stresses in simple bridge trusses; influence lines; fundamental principles of design of structural members and connections.

Prerequisite: CE 381. Required in Civil and Highway Engineering; senior year; first term; 4 credits; 1 recitation; 9 hours laboratory work. Fee \$1.50. Text: Johnson, Bryan, Turneure, Modern Framed Structures, Vols. I, II. *S. H. Sims, B. Glenn*

CE 483. Structural Design. Design and estimate of plate girder, steel roof, and bridge trusses.

Prerequisite: CE 482. Required in Civil and Highway Engineering; senior year; second term; 4 credits; 1 recitation; 9 hours laboratory work. Fee \$1.50. Text: Johnson, Bryan, Turneure, *Modern Framed Structures*, Vols. I-III. *S. H. Sims, B. Glenn*

CE 484. Structural Design. Continuation of CE 483. Design of voussoir and elastic arches.

Prerequisite: CE 383. Required in Civil and Highway Engineering; senior year; third term; 4 credits; 1 recitation; 9 hours laboratory work. Fee \$1.50. Text: Johnson, Bryan, Turneure, *Modern Framed Structures*, Vols. I-III. *S. H. Sims, B. Glenn*

CE 485. Advanced Structural Analysis. A study of statically indeterminate structures.

Prerequisite: CE 381. Elective; senior year; first term; 3 credits; 1 recitation; 6 hours laboratory work. Fee \$1.50. Text: Johnson, Bryan, Turneure, *Modern Framed Structures*, Vol. II. *S. H. Sims*

CE 486. Elastic Deformations and Secondary Stresses. A continuation of CE 485.

Prerequisite: CE 485. Elective; senior year; second term; 3 credits; 1 recitation; 6 hours laboratory work. Fee \$1.50. Text: Johnson, Bryan, Turneure, *Modern Framed Structures*, Vol. II. *S. H. Sims*

CE 488. Wood and Steel Structures. Design of mill buildings.

Prerequisite: CE 387. Required in Mechanical Engineering; senior year; first term; 3 credits; 1 recitation; 6 hours laboratory work. Fee \$1.50. Text: Howe, *Design of Simple Trusses in Wood and Steel*. *S. H. Sims, B. Glenn*

CE 489. Trusses and Towers. Design of steel roof trusses and transmission towers.

Prerequisite: CE 387. Required in Electrical Engineering; senior year; first term; three credits; 1 recitation; 6 hours laboratory work. Fee \$1.50. *S. H. Sims, B. Glenn*

CE 494, 495, 496. Seminar. The members of the senior classes in Civil and Highway Engineering, and the departmental faculty constitute the seminar. The purposes of the seminar are to examine current engineering literature and practice and to provide additional practice in the use of oral and written English.

Required in Civil and Highway Engineering; senior year; first, second, and third terms; 1 credit each term; 1 lecture. Fee \$2.00. *S. H. Sims*

ELECTRICAL ENGINEERING

This curriculum is designed especially to train the young engineer in the theory of his profession, such practical work as is given in shop and laboratory being subordinated to this end. Practical acquaintance with actual conditions can be acquired only in the field, during vacation and after graduation. For this reason, and in order to supplement his college education, the student is urged to spend at least a part of his vacation in some line of electrical industry.

Equipment. The four laboratories of this department occupy the first floor of Apperson Hall. The freshman laboratory is equipped with the simpler pieces of apparatus for illustrating the fundamentals of electricity. The sophomore laboratory has facilities for accurate measurements and tests of a more refined character, galvanometers, standard cells, standard instruments, inductances, capacities, storage batteries, etc. The general power laboratory has alternating and direct current generators and motors of all usual types, supplemented by special machines and their auxiliaries. These machines are mounted on five concrete platforms each five feet by twenty-four feet. The main source of power is a 100-horse-power three-unit synchronous motor-generator set from which 110 to 220 volt power is available for D. C. and A. C. experiments. This power is supplemented by three-phase service from a transmission line. The fourth laboratory, with one 100 KVA, 350,000 volt transformer, one 10 KVA, 110,000 volt transformer, oscillograph, sphere gaps, etc., is well equipped for high tension experiments.

COURSES

EE 101, 102, 103. **Elements of Electricity.** An elementary course in the construction and operation of the simpler types of electrical equipment.

Required; freshman year; three terms; 3 credits each term; 2 lectures; 1 three-hour laboratory period. Fee \$3.00 a term.

R. H. Dearborn, H. P. Cady

EE 201, 202, 203. **Introduction to Electrical Engineering.** An introduction to the study of electrical engineering problems, including measuring instruments, connections, and circuits.

Required; sophomore year; three terms; 3 credits each term; 2 lectures; 1 three-hour laboratory period. Fee \$3.00 a term.

J. H. Belknap

EE 251. **Technical Electricity.** A preliminary electrical course for non-electrical engineering students, covering the fundamentals of the subject.

Sophomore or junior year; any term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$3.00. Text: Gray, Principles and Practice of Electrical Engineering. *L. F. Wooster*

EE 252. **Electrical Machinery.** A continuation of EE 251, considering the application of electricity to industrial operation, motor selection, operation, and control.

Sophomore or junior year; any term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$3.00. Text: Gray, Principles and Practice of Electrical Engineering. *F. O. McMillan*

EE 301, 302, 303. **Electrical Engineering.** A study of electrostatics, electromagnetism, and direct alternating current machinery.

Required; junior year; three terms; 3 credits each term; 3 recitations. Text: Christies, Electrical Engineering. *L. F. Wooster*

EE 321, 322, 323. **Electrical Laboratory.** A study of wave form and polarity of alternating currents; current voltage and power relations in circuits involving resistance, inductance, and capacity; operation of direct and alternating current machinery.

Required; junior year; three terms; 3 credits each term; 1 four-hour laboratory period. Fee \$3.00 a term. *F. O. McMillan*

EE 401, 402, 403. **Electrical Engineering.** An analysis of electric-power generation, transmission, and distribution with special reference to the technical, economic, and financial problems involved.

Required; senior year; three terms; 4 credits each term; 3 lectures; 1 design period. *R. H. Dearborn*

EE 421, 422. **Electrical Laboratory.** Characteristic performance of alternating machinery, parallel operation, and pump back tests. Engineering and commercial tests on standard electrical machinery.

Senior year; two terms; 3 credits; 1 four-hour laboratory period. Fee \$3.00 a term. Text: Karapetoff. *F. O. McMillan*

EE 431. **Electric Lighting.** Study of electric lamps and their application to exterior and interior illumination.

Senior year; first term; 2 credits; 2 recitations. *L. F. Wooster*

EE 432. **Electric Railways.** Study of the application of electricity to street and interurban railways; traffic conditions; rolling stock; speed time curves.

Senior year; second term; 2 credits; 2 recitations. *L. F. Wooster*

EE 433. **Electric Signaling.** Study of telegraph, telephone, and wireless equipment and their application to the transmission of intelligence.

Senior year; third term; 2 credits; 2 recitations. *L. F. Wooster*

EE 442. **Electric Utilities.** A study of the problems arising in the operation of electric utilities. Public policy, regulation, valuation, rate making, etc.

Senior year; second term; 3 credits; 3 lectures. *R. H. Dearborn*

EE 443. **Railway Electrification.** A study of conditions governing the electrification of trunk lines.

Elective; senior year; third term; 3 credits; 3 lectures.

L. F. Wooster

EE 453. **High Voltage Engineering.** The study and experimental investigation of high voltage and high frequency phenomena.

Elective; senior year; third term; 3 credits; 2 recitations; 1 four-hour laboratory period.

F. O. McMillan

EE 481, 482, 483. **Seminar.** Presentation of abstracts and discussion of articles in the current electrical periodicals.

Elective; senior year; three terms; 1 credit each term; 1 recitation.

R. H. Dearborn

EE 491. **Thesis.** A course, elective by permission, for those whose records indicate ability to complete a satisfactory thesis.

Senior year; third term; 3 credits.

R. H. Dearborn

HIGHWAY ENGINEERING

There are few lines of public endeavor where more money is being spent, or where a higher degree of technical skill and training is required, than in the field of highway engineering. The purpose of these courses is to meet the demand in this State and throughout the Northwest for men equipped to take charge of road and street construction and maintenance work. In addition to the opportunity for useful and honorable service, no field, it is believed, offers greater encouragement in a financial way to the young man of ambition and ability.

Thorough theoretical instruction is accompanied by as much laboratory and field practice as possible. The curriculum includes such basic studies as Mathematics, Chemistry, Physics, Drawing, Materials of Engineering, Applied Mechanics, and Hydraulics, in addition to the technical work given by this department.

In the study of highways, special reference is made to the conditions and needs of Oregon. Besides study of the higher types of roads, due consideration is given to the construction and maintenance of the dirt, gravel, and broken-stone roads. In consequence of the vast area of the State, this class of roads must, of necessity, constitute the greater part of its highways for many years.

Equipment. The equipment of the department is modern and adequate. The department of Mechanics and Materials is equipped with modern testing laboratories, including the best cement- and highway-testing machinery, thus affording students in Highway Engineering the opportunity of studying by direct observation and experiment the strength and properties of the various engineering materials.

COURSES

HE 313. Roads and Pavements. A study of the fundamental principles of location, construction, and maintenance of roads; materials used in road and street building; asphalt, brick, wood block, stone, concrete, and other types of pavements. This course is given in connection with a laboratory course, MM 312.

Required in Civil, Highway, and Irrigation Engineering, and in Landscape Gardening; junior year; first term; 5 credits; 5 recitations. *G. V. Skelton*

HE 411. Highway Engineering. Economic grades and proper location for different soils and surfacing materials; surface and sub-surface drainage; culvert design and construction; construction and maintenance of earth, sand-clay, gravel, macadam, concrete,

brick, and other types of roads; dust preventives and road binders; reconnaissance, surveys, estimates, plans, and specifications; organization of construction and engineering forces; cost data; methods of handling work.

Prerequisite: HE 313. Senior year; first term; 4 credits; 2 recitations; 2 three-hour laboratory periods. *G. V. Skelton*

HE 412. **Highway Engineering.** Continuation of HE 411.

Required in senior year; second term; 3 credits; 2 recitations; 1 three-hour laboratory period. *G. V. Skelton*

HE 413. **Highway Engineering.** Continuation of HE 411 and 412.

Required in senior year; third term; 4 credits; 2 recitations; 2 three-hour laboratory periods. *G. V. Skelton*

HE 416. **Economics of Highway Construction.** Economic and social advantages of improved roads; the traffic census; local and centralized systems of control; highway laws of different states; organization of construction and engineering forces; cost data; estimates, methods of handling work; forms of contract—lump sum, unit price, percentage, and cost plus fixed sum.

Required in senior year; first term; 3 credits; 3 three-hour laboratory periods. *G. V. Skelton*

HE 417. **Highway Transportation.** A study of the various methods of highway transportation with especial reference to cost; the traffic census and its application; highway laws of different states; methods of financing highway construction; relation of character of traffic to type of construction, etc.

Elective; senior or graduate year; first term; 3 credits; 3 recitations. *G. V. Skelton*

HE 427. **Contracts and Specifications.** A study of the general principles and laws of contracts as applied to engineering, including preparation and study of specifications and contracts based upon engineering structures designed by the individual student.

Required in Civil and Mechanical Engineering; senior year; second term; 3 credits; 3 recitations. *G. V. Skelton*

HE 438. **Municipal Engineering and City Planning.** The modern city streets, boulevards, and transportation systems; drainage and sanitation; water supply; lighting. A course of lectures and assigned readings.

Required in senior year; third term; 3 credits; 3 recitations.

G. V. Skelton

INDUSTRIAL ARTS

There is a steadily increasing demand for competent, trained teachers of the Industrial Arts subjects, at beginning salaries ranging from \$1,800 to \$2,400, to teach in elementary, secondary, and vocational schools of Oregon and other states. The manual instruction for boys and girls below the seventh grade is generally given by the regular grade teachers, but the supervisor or special teacher of manual training should be able to organize this work and correlate it with other school subjects and with the later formal courses in manual arts. For boys, this work will take the form of instruction in woodworking, blacksmithing, auto repairing, cement work, and vocational work in the various trades. Where the work is highly specialized along some trade line it is partly financed by the Federal Government.

A degree curriculum of the same general standard as the other baccalaureate curricula is provided in order that the young man who specializes in this field may receive preparation that will place him upon a par with high-school teachers of other branches. The Industrial Arts department is a part of the School of Engineering and has under its supervision all the shop courses offered in the other departments of the College.

Equipment. This department provides the necessary equipment for carrying on the different lines of shop work in the degree and vocational curricula.

The Wood Shop, supplied with the best machines and tools the market affords, contains twenty-four double benches of modern design, accommodating forty-eight students. Each bench is provided with patent rapid-action vises for holding the work, and is furnished with two sets of hand tools, consisting of rip saws, cut-off saws and backsaws, planes, chisels, marking gauges, try-squares, hammers, dividers, and oilstones. The machine equipment of this shop consists of fifteen wood-turning lathes, each furnished with a set of tools; one iron saw-table with rip and cut-off saws, one hand saw, one jig-saw, 24-inch surface planer, 16-inch glue joiner, one hollow chisel mortiser, one belt sander, one veneering press, one disc sander built by the students, two grindstones, and an exhaust system to carry off sawdust. There are also two glue tables with clamps of various sizes, two electric glue heaters. The power is furnished by three three-phase induction motors of 15, 7½, and 5-horse-power.

The Forge Shop contains forty-two down-draft forges of the most approved pattern. Blast is furnished by a steel pressure blower driven by a 10-horse-power induction motor, and the smoke and

gases are removed by an 80-inch exhaust fan, driven by a 20-horse-power motor. Each forge is provided with an anvil, hammers, hardies, tongs, and other small tools. An emery grinder, built by students, has been added to the equipment. There are also swedge blocks and vises at convenient points in the room for general use. A power hammer has recently been added.

The Machine Shop contains one 24x24-inch iron planer, one 15-inch shaper, one 12-inch shaper, one universal milling machine, one universal tool grinder, one wet tool grinder, one radial drill, one 20-inch drill press, one sensitive drill press, one 20-inch engine lathe, one 16-inch engine lathe, one 16-inch universal turret lathe, one 14-inch modern geared lathe, five 14-inch engine lathes, two 10-inch speed lathes, one shop saw, one automatic knife grinder, and twelve bench vises. The following new machines have been added this year: one universal milling machine; one 16-inch by 10-foot quick-change gear lathe; one 14-inch by 8-foot quick-change lathe; one 11-inch by 5-foot engine lathe; one 14-inch by 10-foot quick-change gear lathe; one 14-inch by 8-foot high duty quick-change gear lathe; one universal cutter and tool grinder; one 1-ton, low bed crane; and one electric drill. A 20-horse-power induction motor furnishes the power. A tool-room adjacent contains the small tools. These tools are given out to the students on the check plan.

The Foundry contains a 22-inch Colliau cupola having a capacity of two tons per hour, one 1,200-pound crane ladle, one 800-pound crane ladle, bull ladles, and hand ladles, one 16-inch brass furnace; brass molder's tub, crucibles, one large core-oven, one portable core-oven, one two-ton jib crane, one wall crane for charging floor, one air compressor, one Delano pulley moulding machine No. 2, besides shovels, rammers, and small tools to accommodate twenty students at one time. An emery grinder, built by the students, has been added.

The Auto Mechanics Building, a temporary wooden structure, well lighted and conveniently located, is equipped with all the standard tools usually found in a modern commercial garage. Among the tools are speed wrenches, special wrenches, standard reamers, taps and dies, valve-seating tools, electric drill, jacks, and pliers. The general equipment includes two portable cranes, a twin jack, motor generator set, vulcanizing outfit, 5-horse-power motor, line shafting, emery grinder, drill press, one 15-inch by 8-foot engine lathe, one Marvel cylinder boring machine, one engine stand, and battery repairing tools. A Ford car and a Maxwell truck, used in towing cars and for general utility purposes, together with various parts of cars for instructional purposes, are also elements of the Auto Mechanics equipment.

COLLEGIATE COURSES

IA 111. **Manual Training.** Designed to meet the needs of those students who desire to teach manual training in the sixth, seventh, eighth, and ninth grades of the public schools. A course in wood construction and design; theory and practice in the proper use of tools; growth and structure of woods; shrinkage, warpage, and seasoning of timber; staining and finishing; study of shop methods, equipment, and courses of study.

Required in Industrial Arts; freshman year; any term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00.

H. C. Brandon

IA 112. **Manual Training.** Continuation of IA 111. Problems requiring more technical skill and more knowledge of design and tool processes are taken up.

Required in Industrial Arts; freshman year; second or third term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00.

H. C. Brandon

IA 113. **Manual Training.** Intended to familiarize those students who wish to teach manual training in the high school with commercial methods in wood-working such as are used in the average jobbing shop and with such machinery as is found in the better equipped high school. Well-designed pieces of furniture are made and finished.

Prerequisites: IA 111, 112. Required in Industrial Arts; freshman year; third term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00.

H. C. Brandon

IA 114. **Cabinet Work.** Designing and construction of furniture according to the ability of the individual student; mixing of stains, fillers, and various finishes, with their application; study of the design and construction of drawers and panel work; primary upholstery.

Elective; any term; 2 credits; 2 laboratory periods. Fee \$4.00. Deposit \$1.00.

IA 121. **Woodwork.** A series of construction exercises in joinery and carpentry accompanied by lectures dealing with care and use of bench tools; uses of the steel square in building construction; and the design and construction of trusses, trussed roofs, and timber bridges.

Required in Electrical Engineering; freshman year; any term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00.

D. K. Mereen

IA 132. **Patternmaking.** Offered to students having two-credit course in patternmaking or equivalent. Construction of the more complicated patterns and core boxes necessary for the building of steam and gas engines or other machine parts.

Elective; first or second term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00. *D. K. Mereen*

IA 141. **Foundry Practice.** Includes a study of foundry equipment; care and management of cupolas; mixing and melting of iron; molding in green and dry sand; preparation of cores; casting in iron and brass.

Required in Mechanical Engineering; freshman year; any term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00.

A. E. Ridenour

IA 142. **Advanced Foundry Practice.** Elective; freshman year; any term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00.

A. E. Ridenour

IA 152. **Blacksmithing.** The student is taught to make and manage a forge fire; to shape iron by bending, upsetting, drawing, and welding. Many useful articles are made, including hooks, staples, rings, clevises, and chains.

Required in Mechanical Engineering (freshman year, third term) and in Electrical Engineering (sophomore year, second term); 2 credits; 2 three-hour laboratory periods. Fee \$4.00.

W. H. Horning

IA 181. **Auto Mechanics.** Intended for owners and drivers of cars, emphasizing adjustment, maintenance, and ordinary running repairs of the various parts and units of the automobile; lubrication; cleaning; care of batteries and electrical systems; various types of construction as employed in machines of different manufactures; actual inspection of different types of cars afforded by cars that are being overhauled in the shop.

Elective; any year; any term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00.

M. L. Granning

IA 182. **Auto Mechanics.** More comprehensive course than IA 181.

Required in Industrial Arts; senior year; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00.

M. L. Granning

IA 191, 192, 193. **Shop Drawing.** For those students who plan to teach manual training. The elements of drawing; use of drawing instruments; lettering; general construction; methods of representation; free-hand sketching; considerable attention to drawings of pieces of furniture and constructions in wood that may be worked

out in the shop. In the third term the problem of furniture design receives considerable attention.

Required in Industrial Arts; freshman year; three terms; 2 credits each term; 2 three-hour laboratory periods. Fee \$0.50 each term.

H. C. Brandon

IA 212. **Patternmaking.** Exercises with the common bench tools, emphasizing draft, shrinkage of metals and its effect upon the warpage of castings, etc.; construction of parts of machinery; construction of patterns and core boxes of different types; lumber suitable for patternmaking; glue and metal fastenings; methods of marking; storing of patterns; estimating the weight of castings.

Required in Mechanical Engineering; any term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00.

D. K. Mereen

IA 213. **Patternmaking.** Principles of wood turning and patternmaking and their application to the useful arts; lectures and recitations upon selection of material, fastenings, and joints, shrinkage of wood, allowance for shrinkage of metal, etc.

Required in Industrial Arts; sophomore year; first term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00. Text: International Correspondence School pamphlets.

D. K. Mereen

IA 222. **Carpentry.** Deals with the correct use of the steel square in laying out practical carpenter work, window-sills and door-sills, bay and circular windows, steps, stairs, etc.; detailed construction of window and door frames; sills, caps, weights, and fastenings in relation to the rough framework and the exterior and interior finish of the building; construction of cornices; gutters; brackets, columns, and newel posts; problems involving original design and construction; practice in reading plans, filling out material bills, and estimating cost of material and labor.

Required in Industrial Arts; elective in other curricula; sophomore year; third term; 3 credits; 1 lecture; 2 laboratory periods. Fee \$4.00. Deposit \$1.00.

D. K. Mereen

IA 223. **Mill Work and Veneering.** Instruction and practice in care and use of wood-working machinery, including such work as the sharpening and setting or fitting of band and circular saws, sharpening of jointer and planer bits, and general repair of mill-work machinery; practical work in making of lumber bills and estimates, selection of lumber, and the commercial methods of routing of lumber through the mill; construction of desks, cabinets, tables, etc.; making of three- and five-ply veneer panels and the veneering

of irregular surfaces; lectures bearing upon the work, and related information, such as safety precautions to prevent accidents, drying care of lumber, proportioning of parts, size of tenons, etc.

Required in Industrial Arts; sophomore year; second term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$6.00.

D. K. Mereen

IA 242. Foundry Practice. More comprehensive than IA 141.

Required in Industrial Arts; junior year; third term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$4.00.

A. E. Ridenour

IA 252. Advanced Blacksmithing. Continuation of IA 152 or equivalent for those who wish to take another term of blacksmithing.

Elective; sophomore year; any term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00

W. H. Horning

IA 253. Forging and Tool Dressing. After a minimum amount of preliminary work in forging iron the remainder of the term is devoted to making, tempering, and dressing chisels, drills, and other tools.

Elective in Mining Engineering and Chemical Engineering; sophomore year; third term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00.

W. H. Horning

IA 254. Tool Making and Tempering. Devoted to the study of the heat treatment of steel as exemplified in the making and tempering of springs, machine tools, and other articles of steel.

Prerequisite: IA 152 or equivalent. Required in Mechanical Engineering; sophomore year; first term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00.

W. H. Horning

IA 262. Machine Shop. Both bench and machine work involving principles of chipping, filing, and hand finishing; exercises on lathe, shaper, planer, drill press, and milling machine; lectures on the proper uses of machine tools; cutting speeds; and labor- and time-saving methods.

Required in Mechanical Engineering (sophomore year, second term) and in Electrical Engineering (freshman year, third term); 2 credits; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00.

G. H. Hill

IA 263. Machine Shop. Continuation of IA 262. Considerable time is given to shop and factory management and to labor-saving devices in rapid production work.

Required in Mechanical Engineering (sophomore year, third term) and in Electrical Engineering (sophomore year, first term); 2 credits; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00.

G. H. Hill

IA 333. Wood Turning. A series of exercises in wood turning intended to familiarize the student with the various uses of lathe tools; methods of centering and chucking; segment work; staining and polishing. Small pieces of furniture such as vases, bowls, rings, trays, tables, and stools are worked out.

Required in Industrial Arts; elective in other curricula; junior year; second term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00.

H. C. Brandon

IA 351. Forging. Deals with the equipment of the blacksmith shop; exercises in bending, shaping, upsetting, and welding iron; instruction in hardening and tempering steel; brazing; lectures on the management of a shop, instruction, and shop equipment.

Required in Industrial Arts; junior year; first term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00.

W. M. Porter

IA 352. Hammered Metal Work. Consists of hand-wrought metal work, including hard and soft soldering; the formation of bowls, trays, boxes, lamp shades; and design and construction of furniture fittings.

Required in Industrial Arts; junior year; second term; 3 credits; three-hour laboratory periods. Fee \$6.00.

H. C. Brandon

IA 363. Machine Shop. Includes both bench and machine work, taught by a series of exercises in chipping, filing, and finishing; machine work on lathe, shaper, planer, drill press, and milling machine.

Required in Logging Engineering; junior year; third term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. Deposit \$1.00.

G. H. Hill

IA 461. Machine Shop. Hand processes of chipping, filing, and polishing; practical work on the lathe, drill press, planer, and shaper, taught by carefully planned exercises; lectures on the proper use of tools; selection, care, and use of machine tools; methods of instruction.

Required in Industrial Arts; senior year; first term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. Deposit \$1.00.

G. H. Hill

IA 462. Machine Shop. Continuation of IA 461, in which the student becomes familiar with the milling machine, oxyacetylene

welding, and general machine shop practice. Considerable attention is given to factory methods, and to processes of rapid production.

Required in Industrial Arts; senior year; second term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. Deposit \$1.00.

G. H. Hill

VOCATIONAL COURSES

IA 21. Carpentry and Cabinet Construction. The elements of joining as applied to cabinetmaking and the building trades, including tool operations, design, and construction; growth of woods, strength, warpage, and seasoning of timber; staining and polishing.

Vocational Curriculum in Mechanic Arts; first term; 6 credits; 18 hours shopwork. Fee \$10.00. *D. K. Mereen*

IA 22. Carpentry and Cabinet Construction. Continuation of IA 21. Considerable attention is given to the making of working drawings of simple pieces of furniture which are built in the shop.

Vocational Curriculum in Mechanic Arts; second term; 6 credits; 18 hours shopwork. Fee \$10.00. Deposit \$1.00. *D. K. Mereen*

IA 23. Carpentry and Cabinet Construction. Continuation of IA 22. The steel square and its uses as applied to brace and roof construction; carpentry work developed through the construction of parts of houses, barns, roofs, and bridges; construction of cornices, gutters, brackets, columns, window frames, and stairways; lectures on measurements of lumber and other materials of construction; the use of handbooks in calculating roofs, bridges, and trusses; practice in making estimates and working of problems taken from plans and specifications of houses.

Vocational Curriculum in Mechanic Arts; third term; 6 credits; 18 hours shopwork. Fee \$10.00. Deposit \$1.00. *D. K. Mereen*

IA 24. Carpentry and Cabinetmaking. Briefer course than IA 23.

Vocational Curriculum in Mechanic Arts; elective; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. Deposit \$1.00.

D. K. Mereen

IA 31. Patternmaking. Emphasizes the necessity of draft; use of core prints and core boxes; allowance for shrinkage of iron and other metals and its effect upon different shapes and thicknesses of castings; distortion of patterns; use of segments, staves, ribs, etc.; operation and repair of power machinery; how to select materials such as glue, lumber, shellac, and fasteners. Much of the work is on patterns of machines that are being made in the College shops.

Vocational Curriculum in Mechanic Arts; first term; 3 credits; 18 hours shopwork. Fee \$10.00. Deposit \$1.00. *D. K. Mereen*

IA 32. Patternmaking. Briefer course than IA 31.

Vocational Curriculum in Mechanic Arts; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. Deposit \$1.00.

D. K. Mereen

IA 41. Foundry. Lectures and practice in uses of tools; characteristics of molding sand; problem of joints; parting lines; follow boards; match plates; gates for molds; pouring basins; shrinkage gates; supporting copes; uses of gagers; facings; sea coal; plumbago; talc; charcoal; preparation of facing mixtures; molding with good patterns; with broken patterns; broken castings; skeleton patterns; sweeps; moulding of sheaves, pulleys, brackets, gas-engine cylinders, and other modern types of construction; core making by core boxes, core arbors, core rods; method of venting, baking, and painting of cores.

Vocational Curriculum in Mechanic Arts; any term; 6 credits; 18 hours shopwork. Fee \$10.00.

A. E. Ridenour

IA 42, 43. Foundry. Continuation of IA 41.

Vocational Curriculum in Mechanic Arts; second and third terms; 6 credits each term; 18 hours shopwork. Fee \$10.00 each term.

A. E. Ridenour

IA 44. Foundry. Briefer course than IA 41.

Elective; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00.

A. E. Ridenour

IA 51, 52. Forging. Principles of forging as applied to the average jobbing shop; method of building fires; use of tools in working out of nuts, bolts, bending of eyes, forging of staples, hooks, chains, and rings, clevises, and parts of farm machinery; forging of tools in high carbon steel and speed steel such as chisels, hammers, knives, and other tools; lectures on composition of iron and various low and high speed steels and the treatment especially adapted for each grade to annealing, tempering, and case hardening.

W. H. Horning

IA 53. Tool Making and Tempering. Study of the heat treatment of steel as exemplified in making and tempering tools, springs, knives, and machine tools.

Prerequisite: IA 51 or equivalent. Vocational Curriculum in Mechanic Arts; third term; 6 credits; 18 hours shopwork. Fee \$10.00.

W. H. Horning

IA 55. **Forging.** Briefer course than IA 51.

Vocational Curriculum; elective; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. *W. H. Horning*

IA 61. **Machine Shop.** Intended for students who wish to specialize in Machine Shop Practice. Chipping and filing straight and plane surfaces; filing two pieces to fit; instruction in laying out and drilling; turning of various kinds of materials at different speeds and estimating time and cost of work done by using different methods, such as without and with gauges, micrometers, and calipers.

Vocational Curriculum in Mechanic Arts; first term; 6 credits; 18 hours shopwork. Fee \$10.00. Deposit \$1.00. *G. H. Hill*

IA 62. **Machine Shop.** Continuation of IA 61. Work on planer, shaper, grinder, and milling machine; practical construction of machinery such as lathes, gas engines, emery grinders; general repair work.

Vocational Curriculum in Mechanic Arts; second term; 6 credits; 18 hours shopwork. Fee \$10.00. Deposit \$1.00. *G. H. Hill*

IA 63. **Machine Shop.** Continuation of IA 62, in which emphasis, by means of lectures, is placed upon speed production, construction of gigs, dies, and special tools, and problems relating to tool making.

Vocational Curriculum in Mechanic Arts; third term; 6 credits; 18 hours shopwork. Fee \$10.00. Deposit \$1.00. *G. H. Hill*

IA 64. **Machine Shop.** Briefer course than IA 61.

Vocational Curriculum in Mechanic Arts; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. Deposit \$1.00.

G. H. Hill

IA 81. **Auto Mechanics.** Lectures and practice on care and repair of frame, wheels, steering gear, brakes, axle, transmission, and simple engine adjustments; repair of different types of automobiles.

Vocational Curriculum in Mechanic Arts; first term; 6 credits; 18 hours shopwork. Fee \$10.00. *M. L. Granning*

IA 82. **Auto Mechanics.** Continuation of IA 81. Lectures and repair work on modern auto gas engines; general overhauling of engines; bearing fitting; cylinder and piston lapping; ring fitting; general assembly and timing of engines.

Vocational Curriculum in Mechanic Arts; second term; 6 credits; 18 hours shopwork. Fee \$10.00. *M. L. Granning*

IA 83. **Auto Mechanics.** Continuation of IA 82. Study of auto electrical equipment; maintenance; repair of starting, lighting, and

ignition systems; repair of batteries; systematic location of troubles; and road repair.

Vocational Curriculum in Mechanic Arts; third term; 6 credits; 18 hours shopwork. Fee \$10.00. *M. L. Granning*

IA 84. **Auto Mechanics.** Briefer course than IA 81.

Vocational Curriculum in Mechanic Arts; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. *M. L. Granning*

MECHANICAL ENGINEERING

The curriculum in Mechanical Engineering has for its purpose the preparing of young men for positions of usefulness and responsibility in the industrial life of the country. Instruction is given by means of lectures, recitations, and laboratory exercises. The scientific principles involved in machines, mechanical movements, and machine design are investigated and studied by solving numerous problems in classroom and laboratory. The study of transformation of heat energy into power is taken up in early courses, where the student becomes familiar with the various types of engines by actual contact in the laboratory. At the same time the physical laws governing the principles of operation of engines and transformation of heat energy are explained in the lectures and illustrated by problems.

As the courses advance, the financial side of engineering is made the subject of special study and investigation and finally in the senior year the principles of efficiency and economy are embodied in the design of complete power plants.

Other technical subjects such as mechanics, surveying, hydraulics, and electrical machinery are included in the curriculum to give the student a general knowledge of engineering.

The basic courses of Mathematics, English, Chemistry, and Physics are required, as well as Economics, Political Science, and Business Organization, in order that students may be prepared for useful citizenship as well as for engineering.

Equipment. The equipment of this department consists of drawing tables and drawing boards, blue-print room, and laboratory equipment in steam and gas engineering. The gas and steam engine laboratory equipment is located in the new Engineering Laboratory building.

The gas-engine laboratory contains some twenty engines, including examples of practically every type in use. A number of these are gasoline and kerosene four- and two-cycle engines, ranging in size from three to eighteen horse-power. Many of these engines are intended for practice in operation, repair work, and general maintenance, but all of the principal units are especially fitted for testing and experimentation.

The steam laboratory contains several steam boilers of different types, plain slide-valve, high-speed automatic, Corliss engine, and steam turbine; also pumps, injectors, fans, hot blast heating system, and other auxiliary equipment. The laboratory courses teach the operation, care, and maintenance of power-plant equipment, as well as testing, power measurement, and economy.

The shop equipment used by engineering students is under the supervision of the department of Industrial Arts and includes machines and tools usually found in modern college shops.

COLLEGIATE COURSES

ME 101, 102. Engineering Survey. The purpose of this course is to acquaint the student with the general field of activities in mechanical and electrical engineering. Attention is directed to methods of study and economical use of time in college work.

Required in Mechanical and Electrical Engineering; freshman year; first and second terms; $\frac{1}{2}$ credit each term; 1 lecture period.

G. A. Covell

ME 111. Linear Drawing and Lettering. Training in the use of drafting implements to construct accurate pencil drawings and clean-cut ink lines; practice in making well-shaped engineering lettering and titles. Intended for students who have had no training in mechanical drawing; a student who, by submitting certified work in linear drawing and lettering, or by taking a special examination, satisfies the instructor that he has had the equivalent of this course may be excused from this course. The instruments and materials for this course cost about \$30.00, but the instruments are used in all later drawing courses.

Required in Electrical, Mechanical, Chemical, and Mining Engineering (freshman year, first term), and in Forestry (sophomore year, third term); 2 credits; 3 two-hour laboratory periods. Fee \$0.50. Text: French, Engineering Drawing.

M. Wenk

ME 112. Elementary Mechanical Drawing. Practice in making working drawings of machine parts, methods of dimensioning and checking, and making tracings from these drawings, free-hand sketching and pictorial representation.

Prerequisite: ME 111 or equivalent. Required in Electrical, Mechanical, Chemical, and Mining Engineering; freshman year; first or second term; 2 credits; 3 two-hour laboratory periods. Fee \$0.50. Text: French, Engineering Drawing.

M. Wenk

ME 113. Descriptive Geometry. Theory and problems on the projection of points, lines, surfaces, and solids. An effort is made to make the work as practical as possible and to reveal to the student its relation to mechanical drawing and drafting-room problems.

Required in Electrical, Mechanical, and Chemical Engineering; freshman year; third term; 3 credits; 2 three-hour laboratory periods; 1 lecture. Fee \$0.50. Text: Ferris, Elements of Descriptive Geometry.

M. C. Phillips, M. Wenk

ME 114. Mechanical Drawing. A continuation of ME 112.

Prerequisite ME 112. Required in Electrical, Mechanical, Chemical, and Mining Engineering; freshman year; second term; 2 credits; 3 two-hour laboratory periods. Fee \$0.50. Text: French, Engineering Drawing. *M. Wenk*

ME 121. Elements of Heat Engineering. An introductory course in the fundamental principles of heat engineering, including study of fuels and combustion, properties of steam, steam boilers; practical laboratory work in general construction, operation, and maintenance of boiler-room equipment.

Required in Mechanical Engineering; freshman year; first term; 3 credits; 2 recitations; 1 two-hour laboratory period. Fee \$1.50. Text: Shealy, Steam Boilers. *R. B. Boals, L. R. Depperman*

ME 122. Steam Engines. A study of construction and operation of engines and function of engine parts; use of the indicator and prony brake; engine valve gears; practice in adjustment and operation of steam engines.

Required in Mechanical Engineering; freshman year; second or third term; 3 credits; 2 recitations; 1 two-hour laboratory period. Fee \$1.50. Text: Shealy, Steam Engines.

R. B. Boals, L. R. Depperman

ME 124. Gas Engines. Gas engine fuels; their combustion; construction of the various types of engines; carburetors and ignition systems; practice in the operation of gas engines; their adjustment; diagnosis and correction of engine troubles.

Required in Mechanical Engineering; freshman year; second or third term; 3 credits; 2 recitations; 1 two-hour laboratory period. Fee \$1.50. *R. B. Boals, L. R. Depperman*

ME 221, 222. Heat Engineering. The theory of heat engines, pressure volume changes of gases, gas cycles, evaporation, properties of steam, steam and other vapor cycles, analysis of performance of heat motors; laboratory practice in operation and testing; calibration of test apparatus.

Required in Mechanical Engineering; sophomore year; second and third terms; 3 credits each term; 2 recitations; 1 three-hour laboratory period. Fee \$1.50 each term. Text: Moyer, Calderwood and Potter, Elements of Engineering Thermodynamics.

W. H. Martin, R. B. Boals, L. R. Depperman

ME 226. Steam and Gas Machinery. A general course adapted to the needs of Civil Engineering Students. Elementary thermodynamics; properties of steam; fuels and combustion; boilers; engines; pumps and other auxiliaries; gas and oil engines; practice in maintenance, operation, and simple tests of steam and gas equipment.

Required in Civil Engineering; sophomore year; third term; 5 credits; 3 recitations; 6 hours laboratory work. Fee \$3.00. Text: Allen and Bursley, Heat Engines. *H. L. Prather*

ME 211. Mechanism. A study of mechanical movements, including velocity ratios, transmission of motion by link work, gearing, cams, and belting.

Required in Mechanical Engineering; sophomore year; third term; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$0.50. Text: Keown, Elements of Mechanism. *M. C. Phillips*

ME 312. Machine Design. Application of the principles of Mechanism, Mechanics, and Strength of Materials to design of machine elements. Problems involving riveted joints; screws; shafts and shafting; belt and rope drive; pulleys; gearing; bearings; machine frames; analysis of force and energy problems; flywheels; engine balancing; computations and drawings necessary to the design of one or more complete machines.

Required in Mechanical Engineering; junior year; first term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$0.50. Text: Kimball and Barr, Machine Design. *M. C. Phillips*

ME 313. Machine Design.

Required in Mechanical Engineering; junior year; second term; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$0.50. Text: Kimball and Barr, Machine Design. *M. C. Phillips*

ME 314. Machine Design.

Required in Mechanical Engineering; junior year; third term; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$0.50. Text: Kimball and Barr, Machine Design. *M. C. Phillips*

ME 315. Advanced Mechanical Drawing. A course in elementary machine design dealing with the design of simple installations and parts of machinery by means of standard handbooks and empirical formulas.

Required in Industrial Arts; senior year; second term; 3 credits; 3 laboratory periods. Fee \$0.50. *M. C. Phillips*

ME 322. Steam Turbines. The theory of the steam turbine; types; construction and design of most important parts; operating characteristics; effect of pressure, superheat, vacuum, and other factors.

Required in Mechanical Engineering; junior year; second term; 3 credits; 3 recitations. Text: Moyer, The Steam Turbine.

W. H. Martin

ME 325. **Gas Engines.** Theory of gas and oil engines and gas producers; the Otto and Diesel cycles; liquid fuels; principles of carburetion; ignition and flame propagation; gas manufacture; design characteristics of stationary and automotive engines; trend of development.

Required in Mechanical Engineering; junior year; first term; 2 credits; 2 recitations. Text: Streeter, Internal Combustion Engines.

W. H. Martin

ME 328. **Steam Machinery.** A study of solid fuels; their combustion; boilers and auxiliaries; simple, compound, and uni-flow engines; care and operation of steam machinery; its adjustment; flue-gas analysis and its application to practice.

Required in Electrical Engineering (first term) and in Mining Engineering (second term); junior year; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$1.50. Text: Allen and Bursley, Heat Engines.

H. L. Prather

ME 329. **Steam Turbines.** Study of the various commercial types of impulse; reaction and mixed-flow turbines; turbo-generators; their method of governing; theory, efficiency, and construction; laboratory practice in their operation and adjustment. This includes a short course in gas and oil engines with special reference to the requirements of the electrical engineer.

Required in Electrical Engineering; junior year; second term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$1.50.

H. L. Prather

ME 331. **Power Laboratory.** Operation and testing of steam and gas machinery. Indicator practice, valve setting, mechanical efficiency, and economy tests.

Prerequisites: Ph 111, 112, 113, 210; Mth 111, 131, 132, 251, 252, 253. Required in Chemical Engineering; junior year; third term; 3 credits; 1 recitation; 6 hours laboratory work. Fee \$3.00.

R. B. Boals

ME 339. **Steam Power Plants.** A study of the composite steam-power plant, covering the assembly and coordination of the various units, coal-handling machinery for power plants, etc., with especial reference to their use in electrical generating and distributing systems, together with preliminary estimates and layout of such plants.

Required in Electrical Engineering; junior year; third term; 3 credits; 2 recitations; 1 three-hour drawing period. Fee \$0.50. Text: Gehhardt, Steam Power Plant Engineering.

H. L. Prather

ME 415, 416. **Power Plant Engineering and Design.** A detailed study of the steam power plant and its parts; fuels; combustion;

boilers; prime movers; auxiliary equipment; finance and economics; designs worked out for actual cases and proper consideration given to location of plant; selection of boilers, engines, and other equipment; arrangement of parts including connections, piping, and auxiliaries; considerable attention to proper economic balance between operating costs and fixed charges. Part of one term is given to refrigeration, theory and design.

Required in Mechanical Engineering; senior year; first and second terms; 5 credits each term; 3 recitations; 6 hours design. Fee \$0.50. Texts: Gehhardt, Steam Power Plant Engineering. Harding and Willard, Power Plants and Refrigeration. Greene, Elements of Refrigeration.

W. H. Martin

ME 451, 452, 453. **Engineering Laboratory.** A detailed study of mechanical equipment and processes by the method of laboratory tests and analysis of test results. Efficiency and economy tests and operating characteristics of steam, gas, and oil engines; steam turbines; steam pumps; boilers; fans and blowers; heating and ventilating equipment; compressed air and refrigerating machinery. The A. S. M. E. Power Test Code is used as a laboratory manual.

Required in Mechanical Engineering; senior year; three terms; 3 credits each term; 9 hours laboratory work. Fee \$3.00 each term.

W. H. Martin, H. L. Prather

ME 465. **Heating and Ventilating.** Study of modern methods of heating and ventilation; approved systems of heating by means of air, steam, and hot water; methods of computing radiating surface; effective methods of ventilation; general design; construction and operation of heating plant.

Required in Mechanical Engineering; senior year; third term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Text: Hoffman, Heating and Ventilating. Fee \$0.50.

M. C. Phillips

ME 481, 482. **Seminar.** Practice in effective writing and speaking on engineering and allied subjects. Preference is given to the discussion of any new developments in the field of mechanical engineering. The work supplements the work of the prescribed courses.

Required in Mechanical Engineering; senior year; 1 credit each term; 1 recitation.

W. H. Martin

VOCATIONAL COURSES

ME 11. **Vocational Drawing.** Course ME 111 simplified for those students who have not had high-school drawing.

Required in Vocational Curriculum in Mechanic Arts; first term; 2 credits; 6 hours laboratory work. Fee \$0.50. Text: French, Engineering Drawing.

H. C. Brandon

ME 12. **Vocational Drawing.** Theory and problems in conventional representation of bolts, nuts, screws, and other machine parts; drawings of simple machines.

Required in Vocational Curriculum in Mechanic Arts; second term; 2 credits; 6 hours laboratory work. Fee \$0.50. Text: French, *Engineering Drawing.* *H. C. Brandon*

ME 13. **Vocational Drawing.** Practical machine drafting including free-hand drawing, assembly and detail drawings of machines such as are built at the College shops; methods of dimensioning and checking. Advanced students will have work in gearing.

Required in Vocational Curriculum in Mechanic Arts; third term; 2 credits; 6 hours laboratory work. Fee \$0.50. *H. C. Brandon*

ME 21, 22, 23. **Automotive Laboratory.** These courses are designed to supplement courses IA 82, 83, 84. Special attention to the theory involved in the electrical equipment of automobile and other gas engines; systematic study of the principles of elementary electricity; the applications of these principles in batteries, condensers, induction coils, magnetos, generators, and motors as found in modern automobile construction; standard types of starting, lighting, and distributing systems with reference to their construction, care, and operation, maintenance, and spark control; electrical testing and trouble shooting.

Elective in Vocational Curriculum; three terms; 1 credit each term; 2 recitations or lectures; 1 three-hour laboratory period. Fee \$2.00 a term. Text: Hobbs and Elliott, *The Gasoline Automobile.*

R D. Glick

MECHANICS AND MATERIALS

Courses are offered covering statics, dynamics, and the strength and properties of engineering materials. In the last division there are, in addition to the general courses which deal with structural materials, several special courses from which the student may learn the technic belonging to various specialized branches of materials treatment and testing.

The offices, classrooms, and laboratories of the department are located in the east division of the Engineering Laboratory. The floor-space occupied is about 14,000 square feet, and provides separate laboratories for structural materials, cement and concrete, bituminous and non-bituminous highway materials, oils, fuels, and the microscopic examination and heat treatment of metals. The equipment is modern, and is well arranged for the work of instruction and for a limited amount of research.

COURSES

MM 311. Materials of Engineering. A lecture and laboratory course on the materials of engineering construction with special reference to the methods and specifications adopted by the American Society for Testing Materials and other national engineering organizations. In the work with metals the microscope is used to illustrate structure and to study characteristic types of defective material. The laboratory program is varied somewhat for the students from different departments to include tests on those materials of special interest to them; for example, Civil Engineering students do special work on highway materials, Forestry students on timber, etc.

Required in Civil Engineering (junior year, second term), in Electrical Engineering (junior year, third term), in Industrial Arts (senior year, first term), in Forestry and Logging Engineering (senior year, second term), in Chemical Engineering (junior year, first term); elective to other suitably prepared students; 3 credits; 1 lecture; 3 hours laboratory work. Fee \$3.00. Text: Moore, *Materials of Engineering*.

S. H. Graf, C. E. Thomas, I. F. Waterman

MM 312. Materials of Engineering. Similar to MM 311 but including work on fuels, lubricants, bearing metals, belting, and other materials of special interest to the mechanical engineer in addition to work on the structural materials. Assigned readings.

Prerequisites: Ph 111, 112, 113; Ch 101, 102, 103; Mth 251, 252, 253. Required in Mechanical Engineering; junior year; first term; 4 credits; 1 lecture; 6 hours laboratory work. Fee \$4.00. Text: Moore, *Materials of Engineering*.

S. H. Graf, C. E. Thomas

MM 351. Mechanics. (Statics). Applied mechanics for engineering students; forces and force systems with reference to the equilibrium of rigid bodies, including simple framed structures; methods of finding centers of gravity and moments of inertia and their practical applications; numerous problems having engineering application.

Prerequisites: Differential and Integral Calculus. Required in Mechanical, Electrical, Civil, and Mining Engineering; junior year; first term; 3 credits; 3 recitations. Text: Poorman, Applied Mechanics.
S. H. Graf, C. E. Thomas, I. F. Waterman

MM 352. Mechanics. (Dynamics). A continuation of MM 351 dealing with principles and problems in Kinetics; force as a factor causing motion; work, energy, friction, and impact studied and illustrated by means of numerous problems.

Prerequisite: MM 351. Required in Mechanical, Electrical, and Mining Engineering (second term) and in Civil Engineering (third term); junior year; 3 credits; 3 recitations. Text: Poorman, Applied Mechanics.
S. H. Graf, C. E. Thomas, I. F. Waterman

MM 353. Strength of Materials. In this course the general principles of mechanics are applied to the elements of engineering structures to determine their strength and fitness. Some of the features are tensile and crushing strength of various engineering materials; stresses in beams and girders under different systems of loading and support; supporting strength of columns; application of tension to shafts in transmission of power. Students are required to work and hand in problems.

Prerequisite: MM 352. Required in Mechanical, Electrical, and Mining Engineering (third term) and in Civil Engineering (second term); junior year; 3 credits; 3 recitations. Text: Boyd, Strength of Materials.
S. H. Graf, C. E. Thomas, I. F. Waterman

MM 421. Highway Inspection Methods. Designed for students who wish to engage in highway work as inspectors. The course includes lectures on the principles of inspection, sampling of materials, and operation of concrete and bituminous paving plants, and covers those field and laboratory tests necessary in the control of various types of road surfacing mixtures. Assigned readings. Laboratory reports.

Elective; second or third term as announced in schedule; 3 credits; 1 recitation or lecture; 1 three-hour laboratory period. Fee \$3.00.
S. H. Graf

MM 426. Highway Materials Laboratory. Designed particularly for those specializing in Highway Engineering. Different road and paving materials and binders are tested and their relative values

determined. Sheet asphalt mixtures and bituminous mortars are studied to determine the effects of various changes in the grading of the aggregates. Finally, samples of various types of roads and pavements are analyzed for density, composition, and grading, with special reference to their conformity with specifications. Assigned references.

Required in Highway Engineering; senior year; second term; 3 credits; 1 lecture period; 2 laboratory periods. Fee \$3.00. Text: Hubbard, Laboratory Manual of Bituminous Materials. *S. H. Graf*

MM 427. **Structural Laboratory.** An advanced laboratory course on plain and reinforced beams and columns to study methods of reinforcing and to determine the value of the materials available; tests on the relative permeability of different mixtures, both plain and when treated with various waterproofing processes; on thermal conductivity of concrete; study of stresses in structures by strain gauge.

Prerequisites: To be approved. Required in Civil Engineering (Structural option); senior year; third term; 3 credits; 9 hours laboratory work. Fee \$3.00.

MM 481. **Metallography and Pyrometry.** Lectures and laboratory work designed to give a working knowledge of the methods of study of structure of metals and alloys; particular attention given to correlation of thermal and mechanical treatment with structure and physical properties of iron and steel; calibration and use of various types of pyrometers; laboratory experiments in heat treatment; preparation of specimens; etching; studying structure under the microscope; making photomicrographs; physical tests, whenever possible, to show the effects on strength, ductility, hardness, or other mechanical properties of the different thermal treatments or other industrial processes.

Required in Chemical Engineering; elective to other suitably prepared students; senior year; third term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$3.00. Text: Sauveur, Metallography and Heat Treatment of Iron and Steel. *S. H. Graf*

MM 691, 692, 693. **Experimental Research Problems.** An opportunity is given for suitably prepared students interested in research to work out original problems. These may be either of their own choosing or suggested by the department, and may cover any subject within the scope of the department laboratories.

Prerequisites: Must be approved in each case, and will vary according to the work proposed. Elective to senior and graduate students; three terms; 3 credits each term; 9 hours laboratory work. Fee to be arranged. *S. H. Graf, C. E. Thomas*

SCHOOL OF FORESTRY

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.
GEORGE WILCOX PEAVY, M.S.F., Dean of the School of Forestry.
CARRIE BALY, Secretary to the Dean.

General Forestry

HAROLD STEPHENSON NEWINS, M.F., Associate Professor of Forestry.
EARL GEORGE MASON, B.S., Instructor in Forestry.

Logging Engineering

JOHN POMOROY VAN ORSDEL, Professor of Logging Engineering.
HENRY RICHARD PATTERSON, B.S., Assistant Professor of Logging Engineering.

*Service Departments**

MAHLON ELLWOOD SMITH, Ph.D., Dean of the Service Departments;
Director of the Summer Session.

WILLIAM BALLANTYNE ANDERSON, Ph.D., Professor of Physics.

EDWARD BENJAMIN BEATY, B.S., M.A., Associate Professor of Mathematics.

CHARLES BUREN MITCHELL, M.A., Professor of Public Speaking.

FREDERICK CHARLES KENT, A.B., Associate Professor of Mathematics.

NICHOLAS TARTAR, B.S., Assistant Professor of Mathematics.

HARRY LYNDEN BEARD, B.S., Assistant Professor of Mathematics.

GEORGE FRANCIS RICHARDSON, Ph.D., Assistant Professor of English.

WILLIAM JOSEPH CHAMBERLIN, B.S., Assistant Professor of Entomology.

JOHN ALBERT VAN GROOS, M.S., Instructor in Mathematics.

GEORGE REUBEN VARNEY, A.B., D.D., Instructor in Public Speaking.

ALBERT WASHINGTON MARKER, A.B., Instructor in Physics.

OSMAN HORACE CADY, M.S., Instructor in Chemistry.

HENRY IRVING WEITZEL, M.S., Instructor in Chemistry.

HORACE WILLISTON, A.B., Instructor in English.

HARRY DRILL, A.B., Instructor in Physics.

ABRAHAM SCHWARTZ, B.S., Instructor in Chemistry.

*Here are listed members of other faculties giving instruction open to students in Forestry.

*Other Schools and Departments**

HECTOR MACPHERSON, Ph.D., Professor of Economics and Sociology.
ULYSSES GRANT DUBACH, Ph.D., Professor of Government and Business Law.

SAMUEL HERMAN GRAF, M.S., Professor of Mechanics and Materials.
JOSEPH KEPNER PARTELLO, Lieutenant Colonel of Infantry, United States Army, Professor of Military Science and Tactics; Commandant of Cadets.

RICHARD BURR RUTHERFORD, A.B., Professor of Physical Education for Men; Director of Intercollegiate Athletics.

NEWEL HOWLAND COMISH, M.S., Professor of Economics.

FRANK ABBOTT MAGRUDER, Ph.D., Associate Professor of Government and Business Law.

SAMUEL MICHAEL PATRICK DOLAN, C.E., Associate Professor of Civil Engineering.

ERWIN BERTRAN LEMON, B.S., Associate Professor of Accounting.

CHARLES EDWIN THOMAS, M.E., Assistant Professor of Mechanics and Materials.

RAY BOALS, B.S., Assistant Professor of Mechanical Engineering.

GLENN HARTMAN HILL, Instructor in Machine Shops.

IVAN FREDERICK WATERMAN, B.S., Instructor in Mechanics and Materials.

BURDETTE GLENN, B.S., Instructor in Civil Engineering.

Since Oregon is the foremost timber state in the Union, having one-fifth of the uncut timber of the country, a distinct responsibility rests upon the commonwealth to see to it that the great timber wealth is conservatively managed and harvested. The function of the School of Forestry is to aid in the accomplishment of these results.

The work of the School of Forestry is divided into two distinct branches. One deals with the production and protection of the forest crop, while the other deals with harvesting the mature timber.

Technical Forestry. Within the past decade the American forester has won notable recognition, and the profession of forestry has made a wonderful growth. The Federal Government has set aside one hundred fifty-six million acres of forest land to be permanently devoted to growing timber. In Oregon an area of thirteen million acres lies within the National Forests, while an area of eleven million acres is privately owned. Since it is suited only to growing timber, much of the privately owned land will eventually be brought under

*Here are listed members of other faculties giving instruction open to students in Forestry.

some form of management so that it can be made permanently productive. This indicates the field of the technical forester. His business is to see to it that this vast area is brought to its highest degree of productiveness and kept there.

Logging Engineering. The logging engineer is a recent development of the Pacific Northwest. In the past, low prices for standing timber, easy logging, and the high prices for lumber have made profits to the lumberman sure, and these same conditions have not demanded economy in operation. With high-priced stumpage, timber difficult of access, and low prices for lumber, a revolution in the entire lumber industry is being forced. It has become a case of economy in operation or financial failure. Bringing the logs over rough country to the mill involves many engineering problems. Among these are the construction of logging railroads, the installation of efficient sky-line and ground-logging devices, and the operation of special steam and electrical logging equipment. The curriculum in Logging Engineering is designed to equip young men to be of use in this field. The curriculum as outlined in this catalogue was prepared under the direction of able timbermen experienced in the Pacific Northwest, and the strictly technical subjects in the curriculum are taught by men who have had practical experience in some of the most progressive logging operations in the country.

Degree Curricula. Two curricula leading to the Bachelor's degree are offered, one in General Forestry and one in Logging Engineering.

Advanced Degrees. The professional degree of Master of Science in Forestry or Logging Engineer is offered to graduates of the College, or other colleges of equal rank, who have attained the degree of Bachelor of Science in the corresponding forestry curriculum, and met the College requirements for graduate study (given in the section of the Catalogue on "General Information"). These requirements specify one full year of resident work amounting to 48 college credits, including an acceptable thesis.

Forestry Short Course. A short course in Forestry for the assistance of men in practical work who do not have the time to devote to a full course or who do not have the necessary preparation for regular degree work, is given during the second term. Effort is made in this short course to fit the work, as far as practicable, to the needs of the individual.

Admission. Detailed statements of entrance requirements, routine of registration, etc., are given in the special bulletin on "General Information," which is furnished on application. Requirements for

admission to the curricula of the School of Forestry are as follows:

Degree curricula: Applicants must be at least 16 years of age and must have completed 15 units of work in a secondary school recognized as standard, these units to include at least 3 units of English, 1 unit each of Elementary Algebra and Plane Geometry, and $\frac{1}{2}$ unit of Higher Algebra, together with $4\frac{1}{2}$ additional units of English, Mathematics, Foreign Languages, Laboratory Sciences and History (including Civics).

Graduate Curricula: Applicants must be holders of the baccalaureate degrees, in the corresponding forestry curriculum, from the Oregon Agricultural College or other college of equal rank.

Forester's Short Course: Applicants must have completed a common school course and be at least 18 years of age. Applicants over 21 years who have not completed a common school course may be admitted to the Short Course at the discretion of the Dean.

Equipment. The School of Forestry is now provided with suitable space in which to do its work. A three-story building, eighty feet wide and one hundred thirty-six feet long, has been constructed to house the work in Forestry. This building contains roomy laboratories for work in silviculture, dendrology, mensuration, forest protection, timber technology, drafting, timber grading, and logging devices and equipment. Through the courtesy of manufacturers of logging equipment and lumber manufacturing concerns, much valuable material has been assembled for demonstration purposes. In addition to the laboratories, classrooms, and offices, space is devoted to a collection of manufactured wood products, designed to show the various uses to which wood may be put, and to educate students in the proper utilization of Oregon's greatest natural resources. All available publications dealing with general forestry, logging, or lumber manufacture are provided for the use of students.

DEGREE CURRICULUM IN GENERAL FORESTRY

The following courses are recommended for freshman and sophomore students who desire to work for a degree either in General Forestry or in Logging Engineering. For graduation the College requires the student to complete 207 credits. The student is expected to complete the professional work as outlined below. Other subjects may be substituted only upon the approval of the Dean. Freshman and sophomore requirements are modified only in exceptional cases.

| Freshman Year | | Term | |
|--|------------------|------------------|------------------|
| | 1st | 2d | 3d |
| General Forestry (F 111, 112)..... | 4 | 3 | .... |
| Elementary Mensuration (F 123)..... | .... | .... | 4 |
| English Composition (Eng 161, 102)..... | 3 | 3 | .... |
| Plane Trigonometry (Mth 111), Elementary Analysis (Mth 131, 132)..... | 4 | 4 | 4 |
| General Botany (Bot 101, 102) | 4 | 3 | .... |
| Mechanical Drawing (ME 111)..... | .... | .... | 2 |
| Plane Surveying (CE 125, 126)..... | .... | 3 | 5 |
| Gymnasium (PEm 111, 112, 113)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | 17 $\frac{1}{2}$ | 18 $\frac{1}{2}$ | 17 $\frac{1}{2}$ |

| Sophomore Year | | | |
|---|------------------|------------------|------------------|
| Mensuration (F 221)..... | 4 | .... | .... |
| Advanced Mensuration (F 222)..... | .... | 4 | .... |
| Tree Identification (F 253)..... | .... | .... | 5 |
| Forest Mapping (F 224)..... | .... | 2 | .... |
| Log Scaling (F 421)..... | .... | .... | 3 |
| Introduction to Economics (ES 391)..... | 3 | .... | .... |
| Labor Problems (ES 301)..... | .... | 4 | .... |
| Engineering Physics (Ph 111, 112, 113)..... | 3 | 3 | 3 |
| Topographic Surveying (CE 222)..... | 5 | .... | .... |
| Forest Protection (F 212)..... | .... | 3 | .... |
| Extempore Speaking (PSP 254)..... | .... | .... | 3 |
| Gymnasium (PEm 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | 17 $\frac{1}{2}$ | 18 $\frac{1}{2}$ | 16 $\frac{1}{2}$ |

The following courses are recommended for junior and senior students who are working for a degree in General Forestry.

| Junior Year | | | |
|--|------|------|------|
| Identification of Woods (F 331)..... | 4 | .... | .... |
| Silviculture (F 342, 343)..... | .... | 4 | 4 |
| Forest Appraisals and Reports (F 313)..... | .... | .... | 5 |
| Advanced Business Law (PS 201, 202)..... | 4 | 4 | .... |
| Introduction to Accounting (BA 231)..... | .... | .... | 3 |
| Comparative Governments (PS 401)..... | 4 | .... | .... |
| Forest Entomology (Ent 321)..... | .... | 4 | .... |
| Electives | 5 | 5 | 4 |
| | 17 | 17 | 16 |

| Senior Year | | | |
|---|------|------|------|
| Forest Finance (F 411, 412)..... | 5 | 5 | .... |
| Economics of Lumber Industry (F 413)..... | .... | .... | 5 |
| Dendrology (F 451, 452)..... | 5 | 5 | .... |
| Forest Management (F 416)..... | .... | .... | 5 |
| Materials of Engineering (MM 311)..... | .... | 3 | .... |
| Electives | 7 | 4 | 7 |
| | 17 | 17 | 17 |

SUGGESTED ELECTIVES

Junior and Senior Years

| | 1st | Term | |
|--------------------------------------|-----|------|-----|
| | | 2d | 3d |
| Forest Administration (F 311)..... | 3 | --- | --- |
| Uses of Wood (F 332)..... | --- | 3 | --- |
| Advanced Forest Mapping (F 326)..... | --- | --- | 3 |
| Timber Technology (F 431, 432)..... | 5 | 4 | --- |
| Forest Engineering (F 473)..... | --- | --- | 5 |
| Seminar (F 463)..... | --- | --- | 1 |

DEGREE CURRICULUM IN LOGGING ENGINEERING

Freshman and Sophomore Years

The work for these years is the same as that for the corresponding years in the General Forestry Curriculum.

The following courses are recommended for junior and senior students who are working for a degree in Logging Engineering.

Junior Year

| | | | |
|--|-----|-----|-----|
| Logging Devices and Equipment (LE 481, 482)..... | 4 | 4 | --- |
| Logging Machine Design (LE 483)..... | --- | --- | 4 |
| Forest Appraisals and Reports (F 313)..... | --- | --- | 5 |
| Identification of Woods (F 331)..... | 4 | --- | --- |
| Uses of Wood (F 332)..... | --- | 3 | --- |
| Advanced Business Law (PS 201, 202)..... | 4 | 4 | --- |
| Machine Shop (IA 363)..... | --- | --- | 3 |
| Steam Machinery (ME 228)..... | --- | 3 | --- |
| Electives | 5 | 3 | 4 |
| | 17 | 17 | 16 |

Senior Year

| | | | |
|--|-----|-----|-----|
| Timber Transportation (LE 371, 372, 373)..... | 4 | 5 | 5 |
| Forest Finance (F 411, 412)..... | 5 | 5 | --- |
| Economics of Lumber Industry (F 413)..... | --- | --- | 5 |
| Logging Devices and Equipment (LE 481, 482)..... | 5 | 4 | --- |
| Logging Methods (LE 493)..... | --- | --- | 3 |
| Seminar (F 463)..... | --- | --- | 1 |
| Electives | 3 | 3 | 3 |
| | 17 | 17 | 17 |

SUGGESTED ELECTIVES

Logging Engineering

| | | | |
|--|-------|-------|-------|
| Comparative Governments (PS 401)..... | 4 | ..... | ..... |
| Introduction to Accounting (BA 231)..... | ..... | ..... | 3 |
| Bridge Design (LE 484)..... | 3 | ..... | ..... |
| Materials of Engineering (MM 311)..... | ..... | 3 | ..... |
| Lumber Manufacture (LE 496)..... | ..... | ..... | 3 |

Lumber Manufacture

Students who expect to enter some branch of the lumber manufacturing industry are advised to elect certain of the following courses during their junior and senior years.

| | | | |
|--|-------|--------|--------|
| Identification of Woods (F 331)..... | 4 | ..... | ..... |
| Uses of Wood (F 332)..... | ..... | 3 | ..... |
| Advanced Business Law (PS 201,202)..... | 4 | 4 | or (4) |
| Forest Finance (F 411, 412)..... | 5 | 5 | ..... |
| Economics of the Lumber Industry (F 413)..... | ..... | ..... | 5 |
| Lumber Manufacture (LE 496)..... | ..... | ..... | 3 |
| Timber Technology (F 431, 432)..... | 5 | 4 | ..... |
| Lumber Mill Studies (F 37X) (Field work)..... | 6 | ..... | ..... |
| Transportation (ES 403)..... | ..... | ..... | 4 |
| Money and Banking (ES 311)..... | 4 | ..... | ..... |
| Corporation Accounting (BA 203)..... | (3) | or (3) | or (3) |
| Cost Accounting (BA 203)..... | ..... | ..... | 3 |
| Industrial Organization and Management (BA 381)..... | ..... | 3 | or (3) |
| Wood and Steel Structures (CE 456)..... | 3 | ..... | ..... |
| Mechanics (MM 251)..... | 3 | ..... | ..... |
| Strength of Materials (MM 353)..... | ..... | ..... | 3 |
| Machine Design (ME 312)..... | ..... | ..... | 3 |
| Financial Engineering (ME 335)..... | ..... | 3 | ..... |

NUMBERING AND ARRANGEMENT OF DESCRIPTIONS OF COURSES IN THIS CATALOGUE

Courses in degree curricula are designated by numbers of three digits in which the left-hand digit represents usually the year (as first, second, third, etc.) in which the course is normally pursued; the middle digit represents the group of related courses in the department to which the course belongs; and the right-hand digit represents the sequence of courses in cases where courses normally follow each other in succeeding terms. Courses in vocational curricula are numbered with two digits, the first generally representing the year in which the course is pursued, the second the sequence of the course.

Under each department descriptions of vocational courses are printed immediately after the descriptions of collegiate courses.

GENERAL FORESTRY

COLLEGIATE COURSES

F 111. **General Forestry.** Preliminary survey of the whole field of forestry; origin and progress of scientific forestry; economic necessity of forestry; present forest wealth and possibilities of increasing it; forest ownership, private, state, and national; preliminary survey of state and national forest laws and policies; outline of national forest organization.

Required in Forestry and Logging Engineering; freshman year; first term; 4 credits; 5 lectures and recitations. Reference text: Moon and Browne, Elements of Forestry.

F 112. **General Forestry.** Responsibility of civilized man for the conservation of natural resources; vital interests of this Nation in its timber, coal, iron, oil, water, etc.; methods of insuring longest and best use of natural resources; conservation legislation.

Required in Forestry and Logging Engineering; freshman year; second term; 3 credits; 3 lectures and recitations. Reference text: Van Hise, Conservation of Natural Resources.

F 123. **Elementary Mensuration.** Federal survey system; identification of corners and lines; methods of covering the ground in timber cruising; pacing; instruments and devices used in measuring diameters and heights of trees; units of timber measurement; contents of felled timber; scale rules; simple plane table work.

Required in Forestry and Logging Engineering; freshman year; third term; 4 credits; 3 recitations; 1 three-hour laboratory period. Fee \$2.00. Reference text: U. S. Manual of Public Land Surveys.

F 212. **Forest Protection.** Protecting forests from fire; Federal, state, and private agencies; methods and equipment of prevention and control; forest insect control; forest pathology.

Elective in Forestry and Logging Engineering; sophomore year; second term; 3 credits; 3 lectures and recitations.

F 221. **Mensuration.** Topographic surveying of forested areas as basis for timber appraisal; keeping field notes; traversing; practice in surveying with aneroid barometer with the use of barograph as a checking instrument; execution of public land surveys; retracing surveyed lines in timber; section subdivisions.

Required in Forestry and Logging Engineering; sophomore year; first term; 4 credits; 3 recitations; 1 three-hour field or laboratory period. Fee \$2.00.

F 222. **Advanced Mensuration.** Volume tables and form factor tables for timber estimating; growth studies; yield tables; complete

valuation surveys including application of methods; comparison between values derived in logging and mill cuts and estimates of standing timber; field work at the mills and in the woods; complete valuation survey and report on a given piece of timber; advanced work in the execution of topographic surveys on timbered areas; costs.

Required in Forestry and Logging Engineering; sophomore year; second term; 4 credits; 3 recitations; 1 three-hour field period. Fee \$2.00. Reference text: Graves, Forest Mensuration.

F 224. Forest Mapping. Drill in detail of forest mapping; lettering and conventional signs; crayon and ink colorings in Forest Service and other standard legend; making of final reconnaissance and land classification maps; finishing maps; relief maps from topographic data; free-hand field sketching.

Required in Forestry and Logging Engineering; sophomore year; second term; 2 credits; 2 two-hour laboratory periods. Fee \$2.00.

F 253. Tree Identification. Field characteristics and classification of timber trees of United States; their commercial range, local occurrence, size, growth, form, climate, soil, and moisture requirements; resistance; relative tolerance and reproduction. The fundamental purpose is to teach the student to identify commercial timber trees.

Required in Forestry and Logging Engineering; sophomore year; third term; 5 credits; 3 lectures; 3 three-hour laboratory or field periods. Fee \$2.00. Reference text: Sudworth, Trees of the Pacific Slope.

F 311. Forest Administration. Federal forests; Forest Service organization; national supervision; the district; the forest as an administrative unit; administration of state forests; private forests; discussion of fire prevention and control methods.

Required in Forestry; junior year; first term; $\frac{3}{4}$ credits; 3 lectures and recitations.

F 313. Forest Appraisals and Reports. Commercial timber-land examinations as made by commercial cruising companies; cruising methods required by bonding companies, bankers, purchasers, and operators; reports on such examinations; cruising methods and their relative merits; field work and report on a problem of practical value to some logging concern.

Required in Forestry and Logging Engineering; junior year; third term; 5 credits; 3 lectures; 2 three-hour field or laboratory periods. Fee \$3.00.

F 316. Efficiency Systems. General discussion of efficiency systems; special application to lumber industry; cost-keeping systems and their comparative values; organization; cost keeping versus bookkeeping; bonus, merit, profit-sharing, and piece systems; labor problems as applied to logging industry; present-day labor management as practiced in modern logging operations.

Elective in Logging Engineering; junior year; third term; 5 credits; 5 lectures. Fee \$4.00.

F 326. Advanced Forest Mapping. Construction of topographic maps from data obtained by students in the field; trail tape, Abney hand level, aneroid and Forest Service compass used in securing field data; construction of relief maps; drill in lettering and finishing maps.

Required in Forestry; junior year; third term; 3 credits; 3 two-hour laboratory or field periods. Fee \$2.00.

F 331. Identification of Woods. Identification of important commercial woods; physical and structural properties; study of standard commercial grading rules; practical work in grading manufactured lumber.

Required in Forestry and Logging Engineering; junior year; first term; 4 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$2.00. Reference text: Record, Economic Woods.

F 332. Uses of Wood. Study of wood structure; adaptation to commercial uses; chief wood-using industries and relative amounts of principal commercial species used annually; adaptation of wood to special purposes; substitutes for wood; minor uses of wood, pulp, fiber, board, etc.; by-products.

Required in General Forestry and Logging Engineering; junior year; second term; 3 credits; 2 lectures; 1 two-hour laboratory period. Fee \$2.00. Reference text: Kellogg, Lumber and Its Uses.

F 334. Commercial Woods. Designed primarily to meet requirements of the woodworker in choosing species of wood best adapted to his needs, and in identifying woods commonly used; macroscopic and microscopic identification of different species; dendrology and its significance in wood technology; taxonomy, showing how trees are classed.

Required in Industrial Arts; junior year; third term; 3 credits; 2 lectures; 1 two-hour laboratory period. Fee \$2.00.

F 342. Silviculture. Art of establishing, developing, and reproducing trees; forest description; silvicultural system of cutting; marking trees for cutting; silvicultural management; improvement

of woodlands; protection as related to silviculture; natural and artificial regeneration; nursery practice; planting.

Required in Forestry; junior year; second term; 4 credits; 3 recitations; 1 two-hour laboratory period. Fee \$2.00. Reference texts: Graves, Handling of Woodlands. Toumey, Seeding and Planting.

F 343. **Advanced Silviculture.** Practice of forestry in silvicultural regions of the United States; forest ecology; silvics, including the measure of tolerance, study of sample plots, economic possibilities of species, and reproduction characteristics; detailed silvical study of some definite forest tract.

Required in Forestry; junior year; third term; 4 credits; 3 recitations; 1 two-hour laboratory period. Fee \$2.00. Reference text: Toumey, Seeding and Planting.

F 37X. **Field Work.** Based upon practical work performed by the student between the sophomore and junior years or between the junior and senior years. Work must be done on some modern logging operation or in connection with some technical forestry work carried on by the State or by the Forest Service. A report based upon an approved outline must be submitted.

Elective in Forestry and Logging Engineering; junior or senior year; 1 to 6 credits.

F 411, 412. **Forest Finance.** Investments and costs in forest production; value of forest property for destructive lumbering and for continued timber production; appraisal of damages due to the destruction of forest property; forest taxation; stumpage values; comparison of forest values with agricultural values; timber bonds; ultimate ownership of forest lands.

Required in Forestry and Logging Engineering; senior year; first and second terms; 5 credits each term; 5 lectures and recitations. Reference text: Chapman, Forest Valuation.

F 413. **Economics of the Lumber Industry.** Brief history of lumbering in the United States; stumpage prices; prices of manufactured lumber; shifting centers of production; transportation; freight rates; the Interstate Commerce Commission and the lumber industry; substitutes and their effects; lumbermen's associations; present rate of consumption and the future supply; function of the Government in the future of the industry.

Required in Forestry and Logging Engineering; senior year; third term; 5 credits; 5 lectures and recitations.

F 416. **Forest Management.** Fundamental principles of mensuration, finance, organization, and administration reviewed and placed

in their proper relationship to the whole scheme of forest management; emphasis on the study of sustained yield, regulation of cut, and on working plans.

Required in Forestry; senior year; third term; 5 credits; 4 lectures; 1 two-hour conference period.

F 421. **Log Scaling.** Log scaling in the United States generally and in the Pacific Northwest and British Columbia in particular; theory of board measure; merits and demerits of scale rules; allowances for log defect; records; scaling with reference to log grades as practiced on the Pacific Coast in different kinds of timber; rules governing the scale of logs in different districts; rules of log scaling and grading bureaus; scaling at mills and logging camps; laws governing scaling.

Required in Forestry and Logging Engineering; sophomore year; third term; 3 credits; 2 lectures; 1 three-hour field period. Fee \$2.00.

F 431. **Timber Technology.** Fundamental principles underlying seasoning and kiln drying of woods; kiln drying methods and their relative merits; effect of kiln drying upon wood structure; preservative treatment of timber, methods and results; manufacture of alcohol, turpentine, resin, tar, and other chemical products from wood; closer utilization of wood waste.

Required in Forestry; senior year; first term; 5 credits; 3 lectures; 2 two-hour laboratory periods. Fee \$3.00.

F 432. **Timber Technology.** A continuation of F 431.

Required in Forestry; senior year; second term; 4 credits; 3 lectures; 1 two-hour laboratory period. Fee \$2.00.

F 451, 452. **Dendrology.** Classification and identification of forest trees, including study of forest ecology and taxonomy; silvical characteristics and commercial species; life-history and requirements of trees.

Required in Forestry; senior year; first and second terms; 5 credits each term; 3 recitations; 2 two-hour laboratory periods. Fee \$2.00 each term. Reference texts: Sudworth, *Trees of the Pacific Slope*. Sargent, *Trees of North America*.

F 463. **Seminar.** Preparation and discussion of reports of special subjects; current forestry and lumbering literature; labor problems. Each student is required to prepare a report on some assigned subject.

Required in Forestry and Logging Engineering; senior year; third term; 1 credit; 1 two-hour conference period.

F 473. **Forest Engineering.** Trail and road construction under forest conditions; telephone systems adapted to forest administration; rangers' buildings; lookout stations; fire finding appliances; advanced problems in topographic and relief map construction.

Required in Forestry; senior year; third term; 5 credits; 4 lectures; 1 two-hour laboratory period. Fee \$3.00.

VOCATIONAL COURSES

F 11. **Forest Protection.** Causes of forest fires; methods of controlling forest fires; proper organization of fire patrol over definite areas; fire fighting devices; lookout stations, telephone lines, roads, and trails, with reference to fire control; different methods applicable to different regions.

Forester's Short Course; second term; 4 credits; 4 recitations.

F 16. **Forest Administration.** The organization of the Federal Forest Service; the District office; the National Forest; the State Forester's office; organization of the State work; forms used in the transaction of forest business; the preparation of reports.

Forester's Short Course; second term; 3 credits; 3 recitations.

F 21. **Forest Measurements.** Fundamental principles involved in computing the solid contents of logs and trees; method of constructing scale rules; height measures; forest service methods of cruising timber; other methods; discounts for defects; volume tables; practical demonstrations in the woods.

Forester's Short Course; second term; 4 credits; 2 recitations; 2 laboratory periods. Fee \$2.00.

F 24. **Forest Surveying and Mapping.** A study of the United States system of land surveys; retracing surveyed lines; methods employed in marking surveyed lines; use of the compass, the surveyor's chain, plane table, Abney hand level; practical field work in surveying; use of the aneroid barometer in topographic surveying; details of map making; conventional signs used in mapping.

Forester's Short Course; second term; 5 credits; 2 recitations; 3 laboratory periods. Fee \$2.00.

LOGGING ENGINEERING

COURSES

LE 37X. **Field Work.** Same as F 37X, page 19.

LE 371. **Timber Transportation.** Horse logging; chute and flume construction; pole roads; railroads adapted to logging operations.

Required in Logging Engineering; senior year; first term; 4 credits; 2 lectures; 2 three-hour laboratory periods. Fee \$4.00.

LE 372. **Timber Transportation.** Distinction between logging railroads and common carrier railroads; grades; alignment; railroad operation as applied to logging railroads; economic theory of location and construction.

Required in Logging Engineering; senior year; second term; 5 credits; 3 lectures; 2 three-hour laboratory periods. Fee \$4.00. Reference text: Wellington, Economic Theory of Railway Location.

LE 373. **Timber Transportation.** Structures and materials used in logging railroads, costs of surveys, construction, operation and maintenance; bridge and tunnel construction. Economics of construction and operation; financing and management; log driving; rafting.

Required in Logging Engineering; senior year; third term; 5 credits; 3 lectures; 2 three-hour laboratory periods. Fee \$4.00.

LE 471, 472. **Topographic Logging Plans.** Plans for logging operations; making topographic map of timbered area; timber cruised and complete set of plans worked out, showing proper location of main-line logging railroads, railroad spurs, rollways or landings, pole roads, swing settings, logging area lines; estimates of costs.

Required in Logging Engineering; senior year; first and second terms; 5 credits each term; 3 recitations; 2 three-hour field periods. Fee \$5.00 each term.

LE 481. **Logging Devices and Equipment.** Flume and chute construction; rigging; types of railroad locomotives, logging cars, and trucks; donkey engines; skidding and loading devices; camp buildings, shops, dwellings; machine-shop machinery and tools; woods tools; railroad-track equipment and fixtures; oil, grease, packing and waste; water-supply systems; explosives; construction equipment; boilers, aerial tramways, snubbing devices; incline railroads; blocks and hooks, wire rope, logging dams, electrical machines used in logging; detailed investigation of costs and makes of equipment; aerial and high lead systems; economic value of using efficient equipment.

Required in Logging Engineering; senior year; first term; 4 credits; 2 lectures; 2 three-hour laboratory periods. Fee \$4.00.

LE 482. **Logging Devices and Equipment.** A continuation of LE 481.

Required in Logging Engineering; senior year; 4 credits; 2 lectures; 1 two-hour laboratory period. Fee \$3.00.

LE 483. **Logging Machine Design.** Designing logging equipment and rigging and tools; instruction in preparation of working plans for machine shop and foundry construction; making drawings of standard woods tools and railroad equipment constructed in mill and camp shops.

Required in Logging Engineering; senior year; third term; 4 credits; 2 lectures; 3 two-hour laboratory periods. Fee \$4.00.

LE 484. **Bridge Design.** Principles of the design of wood structures as applied to logging railway traffic; a review of stresses in simple trusses and of graphic statics; details, specifications, estimates for through and deck forms of Pratt truss.

Required in Logging Engineering; senior year; first term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$3.00.

LE 493. **Logging Methods.** Yarding, skidding, and loading of logs by all known methods; falling and bucking; relative merits of various methods; all known methods of handling timber from the standing tree to the mill.

Required in Logging Engineering; senior year; third term; 3 credits; 3 lectures.

LE 496. **Lumber Manufacture.** Discussion of various types of modern mills; manufacture of secondary products; electrical versus steam mills; lumber-handling devices; examinations of up-to-date mills and reports on them.

Required in Logging Engineering; senior year; third term; 3 credits; 2 lectures; 1 two-hour laboratory period.

SCHOOL OF HOME ECONOMICS

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.

AVA BERTHA MILAM, Ph.B., A.M., Dean of the School of Home Economics.

ZELTA FERN FEIKE, B.S., Secretary to the Dean.

Home Economics Education

BERTHA STEWART DAVIS, M.S., Associate Professor of Home Economics Education.

HATTY ROSELLE DAHLBERG, B.S., A.M., Associate Professor of Home Economics Education.

LURA AMELIA KEISER, B.S., Instructor in Home Economics Education.

GLADYS WHIPPLE, B.S., Instructor in Home Economics Education.

Household Administration

ALMA GRACE JOHNSON, B.S., Professor of Household Administration.

KATHERINE BARBARA HAIGHT, R.N., Instructor in Household Administration.

SARA WATT PRENTISS, B.S., Instructor in Household Administration.

EMMA SKINNER WELD, Ph.B., Instructor in Household Administration.

Household Art

HELEN LEE DAVIS, A.B., B.S., Professor of Household Art.

LILA MORRIS O'NEALE, A.B., B.S., Assistant Professor of Household Art.

MARGARET MOREHOUSE, B.S., Instructor in Household Art.

JESSIE BILES, A.B., Instructor in Household Art.

MARY VAN KIRK, Instructor in Household Art.

ALMA CATHERINE FRITCHOFF, A.B., Instructor in Household Art.

HELEN McFAUL, B.A., Instructor in Household Art.

LULA LITTEN MAY, B.S., Instructor in Household Art.

LILLIAN CATHERINE TAYLOR, B.S., Instructor in Household Art.

GERTRUDE STRICKLAND, Instructor in Household Art.

BLANCHE STEVENS, B.S., Instructor in Household Art.

Household Science

MYRTLE FERGUSON, B.S., Professor of Household Science.

AMELIA BURNS, B.S., Instructor in Household Science.

RUTH KENNEDY, B.S., Instructor in Household Science.

HAZEL SPRAGUE, B.S., Instructor in Household Science.

SYBIL WOODRUFF, A.B., M.S., Instructor in Household Science.

Institutional Management

SIBYLLA HADWEN, Professor of Institutional Management; Director of Women's Dormitories.

MELISSA HUNTER, B.S., Instructor in Institutional Management; Assistant Director of Women's Dormitories.

WINIFRED HAZEN, B.S., Assistant Instructor in Institutional Management.

*Service Departments**

MAHLON ELLWOOD SMITH, Ph.D., Dean of the Service Departments; Director of Summer Session.

FREDERICK BERCHTOLD, A.M., Professor of English Language and Literature.

JOHN B. HORNER, A.M., Litt.D., Professor of History.

FARLEY DOTY McLOUTH, B.S., Professor of Art.

LOUIS BACH, M.A., Professor of Modern Languages.

GEORGE FRANCIS SYKES, A.M., Professor of Zoology and Physiology.

GODFREY VERNON COPSON, M.S., Professor of Bacteriology.

EDNA AGNES COCKS, A.M., Professor of Physical Education for Women.

NATHAN FASTEN, Ph.D., Professor of Zoology and Physiology.

CHARLES BUREN MITCHELL, A.M., Professor of Public Speaking.

WILLIAM HENRY ELLISON, Ph.D., Associate Professor of History.

LOREN BURTON BALDWIN, A.M., Assistant Professor of English.

HELEN MARGARET GILKEY, Ph.D., Assistant Professor of Botany.

JOSEPH ELLSWORTH SIMMONS, M.S., Assistant Professor of Bacteriology.

GERTRUDE EWING McELFRESH, B.S., Instructor in English.

MELISSA MARGARET MARTIN, A.B., B.S., Instructor in Modern Languages.

VALDA EVELINE SMITH, A.B., Instructor in Chemistry.

ETHEL TAYLOR, A.B., Instructor in Modern Languages.

GEORGE REUBEN VARNEY, A.B., D.D., Instructor in Public Speaking.

McKINLEY HELM, B.S., Instructor in English.

FREDERICK HENRY BERNs, Instructor in Art.

OSMAN HORACE CADY, M.S., Instructor in Chemistry.

HENRY IRVING WEITZEL, M.S., Instructor in Chemistry.

LESLIE CLINTON WHITAKER, B.S., Instructor in Bacteriology.

MARJORIE BALTZELL, Instructor in Art.

CHARLOTTE SKINNER TAYLOR, B.S., Instructor in Physics.

*Here are listed members of other faculties offering instruction open to students in Home Economics.

*Other Schools and Departments**

EDWIN DeVORE RESSLER, A.M., Dean of the School of Vocational Education.

MARY ELIZA FAWCETT, A.M., Dean of Women.

HECTOR MACPHERSON, Ph.D., Professor of Economics and Sociology.

ULYSSES GRANT DUBACH, Ph.D., Professor of Government and Business Law.

JESSE FRANKLIN BRUMBAUGH, A.M., LL.B., Professor of Psychology.

EDNA AGNES COCKS, M.A., Professor of Physical Education for Women.

NEWEL HOWLAND COMISH, M.S., Professor of Economics.

LUCY MAY LEWIS, A.B., B.L.S., Librarian.

FRANK ABBOTT MAGRUDER, Ph.D., Associate Professor of Government and Business Law.

ERWIN BERTRAN LEMON, B.S., Associate Professor of Accounting.

WILLIAM HENRY DREESEN, Ph.D., Assistant Professor of Economics and Sociology.

ETHA MABEL MAGINNIS, Assistant Professor of Office Training.

DORIS MABEL THORNELY, Assistant Professor of Physical Education for Women.

LILLIAN MABEL GEORGE, B.S., A.B., B.L.S., in charge Continuations Department, Library.

BERTHA ALICE WHILLOCK, B.S., Instructor in Office Training.

ALFRED WEAVER OLIVER, B.S., Instructor in Animal Husbandry.

MINNIE KOOPMAN, Instructor in Office Training.

Curricula. The School of Home Economics offers the following curricula: two four-year curricula each leading to the degree of Bachelor of Science, with majors in Household Science, Household Art, Household Administration, Institutional Management, Applied Design, and Home Economics Education; a graduate curriculum leading to the degree of Master of Science; a one-year homemakers' curriculum; a one-year curriculum for institutional managers; and six-week courses in the Summer Session.

Fundamentally, the young women in the School of Home Economics are offered such training as will help them to adjust themselves readily to their environment. That the young women completing this work may be good citizens as well as good homemakers, the curricula in the School of Home Economics have been planned to give a liberal as well as a technical education.

Opportunities for teaching Home Economics in high schools and colleges; in the grade schools of cities; in the consolidated community schools of progressive rural communities; and in Smith-Hughes full-time, part-time, and continuation schools, are constantly increasing and becoming more desirable. Facilities for specializing in this work

*Here are listed members of other faculties offering instruction open to students in Home Economics.

at the College are therefore given special attention. Many opportunities are open to mature women capable of solving the problems of good food service for large numbers of people, and for experts in the management of large institutions. Equally attractive opportunities are available for the expert needle-woman, the tasteful designer of gowns, the competent dressmaker or milliner, the ladies' tailor, buyers and testers of textile materials, and the woman with artistic resources as a household decorator and furnisher.

More and more the life of the modern community is dependent upon institutions. Women are rapidly entering upon service as executive and administrative leaders in the important functions of these institutions. Hospitals, institutional homes, educational institutions, and social centers are increasingly demanding the services of mature women of skilled technical accomplishments. There is a growing demand for dietitians in hospitals and large institutions, in the Red Cross service, and as managers of cafeterias and tea-rooms. The training in dietetics, catering, and management offered the young women by the School of Home Economics, gives both liberal and practical preparation for such service. The textile and clothing courses, together with art and science training, give a good foundation for various lines of laboratory, research, testing, buying, and inspecting work.

With the establishment of the College Practice House, Household Administration is being more effectively taught than was formerly possible. Institutional Management is being developed by practical work given in tea-room management, catering, and dormitory practice.

Quartered in a new building, provided with a thoroughly modern heating, ventilating, and sanitary system, and equipped with the most approved facilities for conducting the work of the various departments, the School of Home Economics is in a very fortunate position for making its courses of the utmost value, not only to its resident students, but to the communities of the State at large wherever its extension activities may penetrate.

Requirements for Graduation. For the bachelor's degree in Home Economics, a minimum of 192 college credits must be completed. The subjects for the freshman and sophomore years are prescribed. The subjects for the junior and senior years are in part prescribed, the remaining credits being elective.

Degree Curricula in Home Economics. The School of Home Economics offers two main curricula leading to the bachelor's degree:

I. A Professional Curriculum, including principally technical courses, for those desiring not only preparation for homemaking, but also to qualify for positions as teachers of Household Science

and Household Art, extension workers, or institutional managers. The first two years, as prescribed, give the necessary foundation for any one of these occupations; the junior and senior years are in part elective, making possible specialization in any one of these departments. The required and elective courses are so adjusted that the student may obtain thorough technical preparation and at the same time benefit by the broad training which any undergraduate course of study should afford. This curriculum fulfills the requirements of the State Board for Vocational Education for the training of Smith-Hughes teachers.

II. A General Curriculum, less severely technical, and allowing for liberal electives, for those desiring preparation in the problems of homemaking, together with considerable freedom in electing courses in other fields.

One-Year Institutional Management Curriculum. This curriculum is offered to students whose maturity or experience qualifies them for positions of responsibility and trust and whose academic training is the equivalent of a full high school course. It is preferred that applicants should be not less than twenty-five years of age. The course is recommended to mature women who wish to undertake the care of college dormitories, cafeterias, tea-rooms, or other institutional or commercial work. To obtain the Institutional Management Certificate fifty credits are required and six months of practical field work. A student in this course especially interested in the food side should choose additional work in dietetics.

One-year Homemakers' Curriculum. This curriculum, established in 1914, is provided especially for those women whose schooling may not qualify them to enter the degree curricula, or whose duties demand that they content themselves with a brief period of training for their life work, or whose aim in seeking training at the College is exclusively practical. The purpose of the other short courses in Home Economics is quite similar to this; to provide, in the short time assigned to the particular courses, the fullest and most fruitful training that it is possible to offer with the facilities of a thoroughly modern School of Home Economics; and to present this training in such a way that it shall be most immediately and constructively helpful to the particular patrons of the given courses. The detailed outlines of short courses in Home Economics other than the one-year Homemakers' Curriculum are presented in the special bulletins issued for the Winter Short Course and the Summer Session.

Admission. Detailed statements of entrance requirements, routine of registration, etc., are given in the special bulletin on "General

Information," which is furnished on application. Requirements for admission to the various curricula of the School of Home Economics are as follows:

Degree curricula: Applicants must be at least 16 years of age and must have completed 15 units of work in a secondary school recognized as standard, these units to include at least 3 units of English, and 1 unit each of Elementary Algebra and Plane Geometry, together with 5 additional units of English, Mathematics, Foreign Languages, Laboratory Sciences, and History (including Civics).

Graduate curriculum: Applicants must be holders of the Bachelor's degree from the Oregon Agricultural College or other college of equal rank.

Vocational curricula: Admission to any of the Homemakers' courses demands the educational qualification of an eighth-grade or common-school course; in cases of mature persons, otherwise capable of carrying on the work, even this qualification may be waived.

PROFESSIONAL CURRICULUM IN HOME ECONOMICS

Freshman Year

| | Term | | |
|--|------|------|------|
| | 1st | 2d | 3d |
| General Chemistry (Ch 101, 102, 103)..... | 2 | 3 | 3 |
| Clothing and Textiles (HA 111, 112, 113)..... | 4 | 4 | 4 |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| Drawing and Composition (A 110), Design (A 120), Color Harmony (A 130)..... | 3 | 3 | 3 |
| Social Ethics (PEw 121), Hygiene (PEw 122)..... | 1 | 1 | .... |
| Introduction to Home Economics (HAd 100)..... | .... | 1 | .... |
| Library Practice (Lib 100)..... | .... | .... | 1 |
| Gymnasium (PEw 111, 112, 113)..... | 1 | 1 | 1 |
| | 15 | 16 | 15 |

Sophomore Year

| | | | |
|--|------|------|------|
| Organic Chemistry (Ch 221)..... | 5 | .... | .... |
| Chemistry of Foods and Digestion (Ch 222)..... | .... | 2½ | 2½ |
| General Physics (Ph 200)..... | .... | 2½ | 2½ |
| Principles of Botany, Pt II (Bot 203)..... | 3 | .... | .... |
| General Bacteriology (Bac 204, 205)..... | .... | 3 | 3 |
| Foods and Cookery (HS 211, 212, 213)..... | 4 | 4 | 4 |
| ①English or Modern Language..... | 3 | 3 | 3 |
| Gymnasium (PEw 211, 212, 213)..... | 1 | 1 | 1 |
| | 16 | 16 | 16 |

①If a modern language is elected, two years of one language will be expected.

Junior Year

| | 1st | Term | |
|--|-------|-------|-------|
| | | 2d | 3d |
| General Psychology (Psy 307)..... | 3 | ..... | ..... |
| Elements of Physiology (ZP 321)..... | 5 | ..... | ..... |
| Housewifery (HAd 310)..... | ..... | 3 | ..... |
| Costume Design (HA 331)..... | 3 | ..... | ..... |
| Introduction to Economics (ES 391)..... | ..... | 3 | ..... |
| Advanced Clothing and Textiles (HA 311)..... | ..... | 5 | ..... |
| Sanitation and Public Health (HAd 300)..... | ..... | 3 | ..... |
| Child Care (HAd 320)..... | ..... | ..... | 3 |
| Dietetics (HS 320)..... | ..... | ..... | 5 |
| Business Management for Women (BA 371)..... | ..... | ..... | 3 |
| Design and Color Use (A 333)..... | 3 | ..... | ..... |
| Electives | 3 | 3 | 5 |
| | 17 | 17 | 16 |

Senior Year

| | | | |
|---|-------|-------|-------|
| Introduction to Sociology (ES 393)..... | 3 | ..... | ..... |
| Home Nursing (HAd 430)..... | 3 | ..... | ..... |
| National Government (PS 301)..... | ..... | 3 | ..... |
| House Decoration (HA 431)..... | ..... | 3 | ..... |
| Ethics (Eth 482)..... | ..... | ..... | 3 |
| Advanced Textiles (HA 316)..... | ..... | ..... | 3 |
| Electives | 10 | 10 | 10 |
| | 16 | 16 | 16 |

Students training for extension work should elect Rural Sociology, Public Speaking, Methods of Demonstration, Vegetable Gardening, Poultry Raising, etc.

Twenty-two and one-half credits in Education are required for a teaching certificate in Oregon. Students planning to teach in Smith-Hughes schools must have 12 instead of 6 weeks of practice teaching. Practice Housekeeping (HAd 450) and Household Management (HAd 440) are required of prospective Smith-Hughes teachers.

SUGGESTED ELECTIVES

| | |
|---|---|
| Commercial Geography (ES 101)..... | 4 |
| Economic History of Europe (ES 111)..... | 4 |
| Economic History of United States (ES 201)..... | 3 |
| International Relations (PS 402)..... | 4 |
| Elementary Industrial Journalism (IJ 200)..... | 3 |
| Practical Public Speaking (PSP 251)..... | 3 |
| Europe Since 1815 (Hst 212)..... | 3 |

SUGGESTED DEPARTMENTAL COMBINATIONS

HOUSEHOLD ADMINISTRATION

Major

| | |
|--|---|
| Intro. to H. Econ (HAD 100).... | 1 |
| Sanitation and Public Health HAD 300) | 3 |
| Housewifery (HAD 310)..... | 3 |
| Child Care (HAD 320)..... | 3 |
| Home Nursing (HAD 430)..... | 3 |
| Household Management (HAD 440) | 3 |
| Practice Housekeeping (HAD 450) | 4 |
| Foods and Cookery (HS 211).... | 4 |
| Foods and Cookery (HS 212).... | 4 |
| Foods and Cookery (HS 213).... | 4 |
| Dietetics (HS 320)..... | 5 |
| House Decoration (HA 431)..... | 3 |

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Minor

| | |
|---|---|
| Intro. to H. Econ (HAD 100).... | 1 |
| Sanitation and Public Health (HAD 300) | 3 |
| Housewifery (HAD 310)..... | 3 |
| Child Care (HAD 320)..... | 3 |
| Home Nursing (HAD 430)..... | 3 |
| Household Management (HAD 440) | 3 |
| Practice Housekeeping (HAD 450) | 4 |

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HOUSEHOLD ART

Major

| | |
|---|---|
| Clothing and Textiles (HA 111) | 4 |
| Clothing and Textiles (HA 112) | 4 |
| Clothing and Textiles (HA 113) | 4 |
| Adv. Clothing and Textiles (HA 311)..... | 5 |
| Advanced Textiles (HA 316)..... | 3 |
| Beginning Millinery (HA 321).... | 3 |
| Costume Design (HA 331)..... | 3 |
| Dress Design (HA 411)..... | 4 |
| Tailoring (HA 416)..... | 3 |
| House Decoration (HA 431)..... | 3 |
| Domestic Architecture (Ar 320) | 2 |

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Minor

| | |
|--|---|
| Clothing and Textiles (HA 111) | 4 |
| Clothing and Textiles (HA 112) | 4 |
| Clothing and Textiles (HA 113) | 4 |
| Adv. Clothing and Textiles (HA 311) | 5 |
| Advanced Textiles (HA 316)..... | 3 |
| Costume Design (HA 331)..... | 3 |

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INSTITUTIONAL MANAGEMENT

Students training for institutional management work should elect the following courses. These 22 credits may take the place of the 22½ credits in Education courses required of prospective teachers.

| | |
|--|---|
| Large Quantity Cookery and Marketing (IM 310)..... | 3 |
| Institutional Management Experience (IM 330)..... | 3 |
| Stenography and Office Training (OT 101)..... | 2 |
| Methods of Demonstration (HS 430)..... | 1 |
| Tea-room Management (IM 430)..... | 5 |
| Advanced Institutional Management (IM 431)..... | 2 |
| Advanced Institutional Management Practice (IM 432)..... | 3 |
| Principles of Accounting (BA 102)..... | 3 |

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HOUSEHOLD SCIENCE

| Major | | Minor | |
|---------------------------------|----|---------------------------------|----|
| Foods and Cookery (HS 211)..... | 4 | Foods and Cookery (HS 211)..... | 4 |
| Foods and Cookery (HS 212)..... | 4 | Foods and Cookery (HS 212)..... | 4 |
| Foods and Cookery (HS 213)..... | 4 | Foods and Cookery (HS 213)..... | 4 |
| Dietetics (HS 320)..... | 5 | Dietetics (HS 320)..... | 5 |
| Diet in Disease (HS 420)..... | 2 | Household Management (HAD | |
| Methods of Demonstration (HS | | 440) | 3 |
| 430) | 1 | | — |
| Experimental Cookery (HS 435) | 2 | | 20 |
| Advanced Institutional Manage- | | | |
| ment (IM 431)..... | 2 | | |
| Tea-room Management (IM 430) | 5 | | |
| Household Management (HAD | | | |
| 440) | 3 | | |
| Practice Housekeeping (HAD | | | |
| 450) | 4 | | |
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GENERAL CURRICULUM IN HOME ECONOMICS

| | Freshman Year | | Term | |
|---|---------------|-----|------|-----|
| | 1st | 2d | 3d | |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 | 3 |
| ①Mathematics or Science..... | 3 | 3 | 3 | 3 |
| ②Modern Language or Science..... | 3 | 3 | 3 | 3 |
| Social Ethics (PEW 121), Hygiene (PEW 122)..... | 1 | 1 | 1 | --- |
| Library Practice (Lib 100)..... | --- | 1 | --- | --- |
| Introduction to Home Economics (HAD 100)..... | --- | --- | --- | 1 |
| Gymnasium (PEW 111, 112, 113)..... | 1 | 1 | 1 | 1 |
| Electives | 5 | 5 | 5 | 5 |
| | 16 | 17 | 16 | |

Sophomore Year

| | | | |
|------------------------------------|----|----|----|
| English | 3 | 3 | 3 |
| Modern Language or Science..... | 3 | 3 | 3 |
| History or Economics | 3 | 3 | 3 |
| Gymnasium (PEW 121, 122, 123)..... | 1 | 1 | 1 |
| Electives | 6 | 6 | 6 |
| | 16 | 16 | 16 |

①Nine credits in one science are required for graduation.

②If a modern language is chosen, at least two consecutive years of that language should be completed. Two elementary language courses may not be taken in the same year.

Junior and Senior Years

For a degree in Home Economics 192 credits are required, not more than one-third of which may be in Home Economics. Thirty-six Home Economics credits are required in the General Curriculum. The following courses make up this requirement:

| | Credits |
|--|---------|
| Clothing and Textiles (HA 111, 112, 113) (for students electing Art).. | 12 |
| or— | |
| Clothing and Textiles (HA 11, 12, 13) (for students not electing Art).. | 12 |
| Foods and Cookery (HS 211, 212, 213) (for students electing Chemistry) | 12 |
| Foods and Cookery (HS 11), Elementary Dietetics (HS 12, 13) (for students not electing Chemistry)..... | 12 |
| Housewifery (HAD 310)..... | 3 |
| Child Care (HAD 320)..... | 3 |
| Household Management (HAD 440)..... | 3 |
| Home Nursing (HAD 430)..... | 3 |
| | <hr/> |
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MINOR IN COMMERCE

Students in Home Economics who wish a minor in Commerce should take the following courses as suggested by the Dean of the School of Commerce:

| Freshman Year | | Term | | |
|---|-----|-------------|----|--|
| | 1st | 2d | 3d | |
| Bookkeeping and Business Methods, Principles of Accounting, Corporation Accounting (BA 101, 102, 103) or— | 3 | 3 | 3 | |
| Elementary Stenography (OT 101, 102, 103), Elementary Typing (OT 111, 112, 113)..... | 5 | 5 | 5 | |

Sophomore Year

| | | | | |
|--|---|---|---|--|
| Accounting Practice (BA 201, 202, 203)..... | 3 | 3 | 3 | |
| or— | | | | |
| Elementary Typing (OT 111, 112, 113)..... | 2 | 2 | 2 | |
| or— | | | | |
| Accounting Practice, Industrial Accounting, Cost Accounting (BA 201, 202, 203)..... | 3 | 3 | 3 | |
| or— | | | | |
| Advanced Stenography and Typing, Office Training for Stenographers (OT 201, 202, 203)..... | 5 | 5 | 5 | |

MINOR IN PHYSICAL EDUCATION

Junior Year

| | 1st | Term 2d | 3d |
|---|---------|------------|---------|
| Elementary Aesthetic Dancing (PEw 131a, 132a, 133a)..... | ½ | ½ | ½ |
| Advanced Outdoor Sports (PEw 241, 242, 243)..... | ½ | ½ | ½ |
| Elementary Folk Dancing (PEw 131b, 132b, 133b).... | ½ | ½ | ½ |
| Apparatus Work (PEw 137, 138, 139)..... | ½ | ½ | ½ |
| Organization and Administration of Physical Education and Recreation (PEw 472)..... | --- | 3 | --- |
| Theory and Coaching of Athletic Sports (PEw 376).... | --- | --- | 3 |
| | <hr/> 2 | <hr/> 5 | <hr/> 5 |

Senior Year

| | | | |
|---|----------|----------|----------|
| General Zoology (ZP 101, 102)..... | 3 | 3 | --- |
| Comparative Vertebrate Zoology (ZP 103)..... | --- | --- | 3 |
| Playground and Gymnastic Games (PEw 375)..... | --- | 3 | --- |
| History of Physical Education (PEw 431)..... | 3 | --- | --- |
| Principles of Physical Education (PEw 461, 462, 463)..... | 3 | 3 | 3 |
| Advanced Hygiene and Sanitary Science (PEw 423)..... | --- | --- | 2 |
| Physical Diagnosis and Anthropometry (PEw 443)..... | --- | --- | 3 |
| Advanced Gymnastics (PEw 311, 312, 313)..... | ½ | ½ | ½ |
| Swimming (PEw 151, 152, 153)..... | ½ | ½ | ½ |
| Electives | --- | --- | 1 |
| | <hr/> 10 | <hr/> 10 | <hr/> 13 |

ONE-YEAR INSTITUTIONAL MANAGEMENT
CURRICULUM

| | | | |
|--|----------|----------|----------|
| Science Option (Chemistry or Physics)..... | 3 | 3 | 3 |
| Foods and Cookery (HS 101)..... | 4 | --- | --- |
| Large Quantity Cookery (IM 310)..... | 3 | --- | --- |
| Sanitation and Public Health (HAD 300)..... | 3 | --- | --- |
| Business Management for Women (BA 371)..... | --- | 2 | --- |
| Meat Judging (AH 475)..... | --- | 1 | --- |
| Tea-room Management (IM 430)..... | --- | 5 | --- |
| Institutional Management Experience (IM 330)..... | --- | 3 | --- |
| Advanced Institutional Management (IM 431)..... | --- | 2 | --- |
| Advanced Institutional Management Practice (IM 432)..... | --- | --- | 3 |
| English Composition (English 101)..... | 3 | --- | --- |
| Home Nursing (HAD 430)..... | --- | --- | 3 |
| ①Business Correspondence (Eng 105)..... | --- | --- | 3 |
| House Decoration (HA 431)..... | --- | --- | 3 |
| Elective | --- | --- | 1 |
| | <hr/> 16 | <hr/> 16 | <hr/> 16 |

①Prerequisite: Eng 101 or equivalent.

ONE-YEAR HOMEMAKERS' CURRICULUM

| | Term | | |
|--|------|------|------|
| | 1st | 2d | 3d |
| Foods and Cookery (HS 11), Elementary Dietetics (HS 12, 13)..... | 4 | 4 | 4 |
| Clothing and Textiles (HA 11, 12, 13)..... | 4 | 4 | 4 |
| Household Management (HAd 11)..... | 2 | .... | .... |
| Social Ethics (PEW 121)..... | 1 | 1 | .... |
| Hygiene (PEW 122)..... | 1 | .... | .... |
| House Decoration (HA 31)..... | .... | 3 | .... |
| Care of Children (HAd 22)..... | .... | 2 | .... |
| Beginning Millinery (HA 321), or Home Nursing (HAd 33)..... | .... | .... | 3 |
| Gymnasium (PEW 11, 12, 13)..... | 1 | 1 | 1 |
| Electives.....5 or | 4 | 3 | 5 |
| | 17 | 18 | 17 |

NUMBERING AND ARRANGEMENT OF DESCRIPTIONS OF COURSES IN THIS CATALOGUE

Courses in degree curricula are designated by numbers of three digits in which the left-hand digit represents usually the year (as first, second, third, etc.) in which the course is normally pursued; the middle digit represents the group of related courses in the department to which the course belongs; and the right-hand digit represents the sequence of courses in cases where courses normally follow each other in succeeding terms. Courses in vocational curricula are numbered with two digits, the first generally representing the year in which the course is pursued, the second the sequence of the course.

Under each department descriptions of vocational courses are printed immediately after the descriptions of collegiate courses.

HOUSEHOLD ADMINISTRATION

Equipment. The department has offices, classrooms and laboratories in the Home Economics Building. A well-equipped and self-supporting Practice House where students may study concrete problems of home management, is located on the campus.

COLLEGIATE COURSES

HAd 100. Introduction to Home Economics. A course for beginning students. Purpose, value, and scope of Home Economics.

Required in Home Economics; freshman year; second term; 1 credit; 1 lecture. *Ava B. Milam*

HAd 140. Home Management for Business Women. (Brief course for young women in School of Commerce and other schools.) The management of the home, the home in relation to public health, and the care of the child.

Elective; freshman year; any term; 3 credits; 3 lectures.

A. Grace Johnson

HAd 300. Sanitation and Public Health. Investigation of sanitary principles and conditions from the practical and scientific standpoints with special reference to the needs of the household, the school, and the community.

Prerequisites (or parallel): Bac 205, Ph 200. Required in Home Economics; junior year; any term; 3 credits; 3 recitations.

Emma S. Weld

HAd 310. Housewifery. An application of chemistry, physics, and economics to the care of the house and its furnishings.

Prerequisite: Ch 103. Required in Home Economics; junior year; any term; 3 credits; 3 two-hour laboratory periods. Fee \$2.00.

Emma S. Weld

HAd 320. Child Care. Development of the child from the time of conception, through infancy, childhood, and adolescence; eugenics; prenatal care; habit formation; proper feeding; child welfare; responsibility of parenthood.

Prerequisites (or parallel): ZP 321, HS 213. Required in Home Economics; junior year; any term; 3 credits; 3 lectures.

Mrs. Sara W. Prentiss

HAd 430. Home Nursing. Care of the patient under home conditions; symptoms; first aid; management of communicable diseases.

Prerequisites: ZP 321, Bac 205. Required in Home Economics; senior year; any term; 3 credits; 3 recitations. Fee \$0.50.

Mrs. Katherine B. Haight

HAd 440. Household Management. (Parallel or precedes Practice Housekeeping, HAd 450.) An application of the principles of scientific management to the home; study of the management of household operations and finances; family and community relationships.

Prerequisite: ES 391. Elective in Home Economics; junior or senior year; any term; 3 credits; 3 recitations. *A. Grace Johnson*

HAd 450. Practice Housekeeping. (Parallel or follows HAd 440.) A course dealing with the problems of the homemaker. Students live in the College Practice House for six weeks and put into practice the training received in all other Home Economics or related courses. (For students in Professional Curriculum.)

Prerequisites: HAd 310, 320; HS 211, 212, 213, 320, or equivalent. Elective in Home Economics; junior or senior year; any term; 4 credits; 3 hours work daily. Fee \$6.00 a week for living expenses. *A. Grace Johnson*

HAd 691, 692, 693. Modern Problems in Household Administration. Chemical, physiological, bacteriological, economic, or sociological topics, according to the preference and training of the individual students.

Prerequisite: HAd 440. Elective in Home Economics; senior or graduate year; three terms; credits and hours to be arranged.

VOCATIONAL COURSES

HAd 11. Household Management. A study of home problems, including the division of the income, choice of site for the house, construction, care of house, and its furnishings.

Required in Homemakers' Curriculum; first or second term; 2 credits; 2 lectures. *Emma S. Weld*

HAd 22. Child Care. Brief study of development and care of child through infancy, childhood, and adolescence; prenatal care, habit formation, proper feeding.

Required in Homemakers' Curriculum; third term; 2 credits; 2 lectures. *Mrs. Sara W. Prentiss*

HAd 33. Home Nursing. Observation of symptoms; administration of medicine; care of sick under home conditions.

Elective in Homemakers' Curriculum; second term; 3 credits; 3 lectures. Fee \$0.50. *Mrs. Katherine B. Haight*

HOUSEHOLD ART

Equipment. The department has offices, classrooms, and laboratories in the Home Economics Building. All necessary furnishings and equipment are available for thorough instruction in textiles, sewing, dressmaking, tailoring, costume design, applied design, millinery, and house decoration.

COLLEGIATE COURSES CLOTHING AND TEXTILES

HA 101. Elementary Clothing and Textiles. Fundamental processes of hand and machine sewing applied to the designing and constructing of undergarments and simple dresses, to repairing, and to decorative needlework; textile discussions.

Required of students in Home Economics who have had no high school sewing; freshman year; first term; 4 credits; 4 three-hour laboratory periods. Fee \$1.25. *Blanche Stevens, Alma Fritchhoff*

HA 111. Clothing and Textiles. (For freshmen who have had one year or more of sewing in accredited high schools. If students are not able to carry this work successfully they will be required to take HA 101.) Designing and constructing of cotton and linen school dresses; materials, design, and decoration considered from standpoint of appropriateness, economy, and beauty; drafting; flat pattern designing; use of commercial patterns; textile study including development of textile industry and study of cotton relative to its use in the home and for clothing purposes.

Required in Home Economics; freshman year; first or second term; 4 credits; 1 lecture; 3 three-hour laboratory periods. Fee \$1.25. *Helen L. Davis, Gertrude Strickland, Alma Fritchhoff, Jessie Biles, Margaret Morehouse*

HA 112. Clothing and Textiles. Preparation and use of dress form; designing and constructing of simple wool dresses for school or street wear; emphasis on line and technique; appropriate decoration; textile study including linen and wool; practical information which will influence selection and make intelligent buyers.

Prerequisites: HA 111, A 110. Required in Home Economics; freshman year; second or third term; 4 credits; 2 lectures; 8 hours laboratory work. Fee \$1.25.

Helen L. Davis, Gertrude Strickland, Alma Fritchhoff, Blanche Stevens, Margaret Morehouse

HA 113. Clothing and Textiles. Designing and constructing of simple silk dresses; pattern modeling; remodeling in wool and silk;

emphasis on design, color, and texture; textile study of silk; factors affecting cost, quality, etc.; household linens, choice of, care, etc.; children's clothes from hygienic, economic, and artistic standpoints.

Prerequisites: HA 112, A 120. Required in Home Economics; third term; 4 credits; 2 lectures; 2 three-hour laboratory periods. Fee \$1.25.

*Helen L. Davis, Gertrude Strickland, Alma Fritchhoff,
Lula May*

HA 118. Dress Design and Construction. (Brief course for young women in School of Commerce and other schools.) Preparation and use of dress form; appropriate designs and principles of construction worked out in planning and making of blouses, skirts, lingerie, and wool or silk dresses.

Elective; freshman year; any term; 3 credits; 1 lecture; 8 hours laboratory work. Fee \$1.00.

Mary Van Kirk

HA 311. Advanced Clothing and Textiles. This course aims to develop independence, initiative, originality, and art in planning and designing garments for different types of figure, and skill and speed in constructing garments. Designing and constructing of children's clothes, lingerie dresses, and different types of blouses, and silk or wool dresses; textile study of minor textile fibers, their use and importance; laces and embroideries; rugs; problems connected with clothing manufacture; cost, hygiene, and care of clothing.

Prerequisites: HA 113, A 130, HA 331 either prerequisite or parallel. Required in Home Economics; junior year; any term; 5 credits; 2 lectures; 3 three-hour laboratory periods. Fee \$1.00.

Mary Van Kirk, Lula May

HA 316. Advanced Textiles. Principles of art, economics, hygiene, and psychology applied to clothing; study of adulterants and substitutes; microscopic and chemical analysis of materials.

Prerequisites: HA 113, A 130, Ch 103. Required; senior year; any term; 3 credits; 3 lectures. Fee \$1.00.

Helen L. Davis

MILLINERY

HA 321. Beginning Millinery. Designing and constructing frames; methods of covering; trimming and renovating.

Elective; any term; 3 credits; 3 three-hour laboratory periods. Fee \$1.50.

Helen McFaul

HA 322. Advanced Millinery. This course continues the work of HA 321 with the purpose of developing speed, originality, and better technique; increased emphasis on millinery as a creative art; good foundation for trade work.

Prerequisite: HA 321. Elective; first or third term; 2 credits; 2 three-hour laboratory periods. Fee \$1.50. *Helen McFaul*

HA 328. **Millinery.** (Brief course for young women in School of Commerce and other schools.) Designing and construction of hats; trimming and renovating.

Elective; any term; 2 credits; 3 two-hour laboratory periods. Fee \$1.50. *Helen McFaul*

APPLIED DESIGN

HA 331. **Costume Design.** Study of proportions of figure, color, types, and personality; effects of line, proportion, and color in dress; history of costume; problems in designing and modeling based on art principles and historic study.

Prerequisite: A 130. Required in Home Economics; junior year; any term; 2 lectures; 2 two-hour laboratory periods. Fee \$1.50. *Lila M. O'Neale*

HA 411. **Dress Design.** Designing, modeling, and constructing of afternoon and evening dresses; emphasis on line, proportion, color, and texture; development of historical costume and its relation to modern fashions with aim of giving practical help and inspiration to students and teachers of dressmaking and costume design.

Prerequisites: HA 311, 331. Elective; senior year; any term; 4 credits; 1 lecture; 3 three-hour laboratory periods. Fee \$1.00. *Lila M. O'Neale*

HA 412. **Trade Course in Dressmaking.** (For students who wish to follow dressmaking as a profession, or who wish to enter commercial work.) Broader training in selecting, designing, fitting, and constructing garments for different types of figures; organization of work from trade standpoint; emphasis on speed.

Prerequisites: HA 311, HA 331, A 311. Elective; 2 to 4 credits; 1 lecture; 4 to 9 hours laboratory work.

HA 416. **Tailoring.** Development of principles and processes of tailoring; application on silk and cloth suits.

Prerequisites: HA 311, 331. Elective; senior year; first or third term; 3 credits; 3 three-hour laboratory periods. Fee \$1.00.

HA 431. **House Decoration.** Planning and furnishing of homes, considering art, economy, convenience, and sanitation.

Prerequisite: A 130. Required in Home Economics; senior year; any term; 3 credits; 3 lectures; 1 two-hour laboratory period. Fee \$1.50. *Helen McFaul*

HA 435. **Applied Design.** Decorative art involving careful consideration of line, form, proportion, and color; original designs

executed in various media for clothing and house-furnishing problems; tie-dying, batik, and stencil decoration for textiles, embroidery, weaving, basketry, lamp shade making, etc.

Prerequisite: A 130. Elective; senior year; any term; 3 credits; 3 three-hour laboratory periods. Fee \$2.00.

HA 438. **The House.** (Brief course for young women in School of Commerce and other schools.) Planning and furnishing of the home from the standpoint of art, economy, convenience, and sanitation.

Elective; first or third term; 3 credits; 3 lectures; 1 two-hour laboratory period. Fee \$1.00. *Margaret Morehouse*

VOCATIONAL COURSES

HA 11, 12, 13. **Textiles.** Clothing and textile study to assist homemaker in her selection, use, and care of clothing and home furnishing materials; principles of art applied to dress; laboratory work planned to give the student practical experience in all needlework problems that are met in the home; use of dress form; construction of wash dresses and children's clothes; designing and constructing of wool and silk dresses; remodeling.

Required in Homemaker's Curriculum; three terms; 4 credits each term; 2 lectures; 3 two-hour laboratory periods. Fee \$1.00 each term. *Margaret Morehouse, Lillian Taylor*

HA 31. **House Decoration.** Planning and decorating the home. Artistic and economic problems.

Required in Homemakers' Curriculum; second term; 3 credits; 3 lectures; 1 two-hour laboratory period. Fee \$1.50.

Margaret Morehouse

Note: Students in Household Art courses who do not wish to make garments or hats for themselves may be furnished material through orders given the department.

HOUSEHOLD SCIENCE

Equipment. The department is located in the Home Economics Building. Two single laboratories accommodating 20 students, and two double laboratories accommodating 40 students each, are well equipped. There is also a family kitchen and dining-room where much meal serving is conducted, and an institutional unit where training in institutional management is given.

COLLEGIATE COURSES

HS 101. Principles of Foods and Cookery. This course aims to give laboratory technique and a resume of elementary cookery. All work is upon a meal basis.

Required in Home Economics of students who have had no Household Science in high school; required in Institutional Management Curriculum; elective in School of Commerce and other schools; any term; 4 credits; 4 two-hour laboratory periods. Fee \$6.00.

Emma Weld, Mrs. Sara W. Prentiss

HS 150. Cookery for Men. A course for men who are planning and preparing their own meals or who are acting as managers of clubs.

Elective to men; second term; 1 credit; 1 three-hour laboratory period. Fee \$2.50.

Mrs. Sara W. Prentiss

HS 211. Foods and Cookery. An introduction to the subject of foods in their scientific and economic aspects of selection, preparation, and use.

Prerequisite: Ch 103. (Bot 201 and Ch 221 prerequisites or parallel.) Required in Home Economics; any term; 4 credits; 2 recitations; 2 three-hour laboratory periods. Fee \$4.00.

HS 212. Foods and Cookery. A continuation of HS 211.

Prerequisite: HS 211. (Ch 222 must precede or accompany this course.) Required in Home Economics; sophomore year; second or third term; 4 credits; 2 recitations; 2 three-hour laboratory periods. Fee \$4.00.

Emma Weld

HS 213. Foods and Cookery. A continuation of HS 211 with stress upon meal planning and serving.

Prerequisite: HS 212. Required in Home Economics; sophomore year; any term; 4 credits; 2 recitations; 2 three-hour laboratory periods. Fee \$4.00.

Mrs. Sara W. Prentiss

HS 320. Dietetics. Scientific study of food materials in their relation to the daily dietary of families under various conditions of environment; dietary standards of metabolism; comparison of the

nutritive values of common foods by computing, preparing, and serving dietaries of specific costs, furnishing specific nutrients.

Prerequisites: HS 213, ZP 321. Required in Home Economics; junior year; any term; 5 credits; 3 recitations; 3 two-hour laboratory periods. Fee \$4.00.
Sybil Woodruff

HS 350. **Camp Cookery.** Instructions in preparing palatable and nutritious products from foods available in camps; outdoor food preparation, involving the use of Dutch ovens, reflectors, and improved camping utensils.

Elective in Forestry, Agriculture, Engineering, and Commerce; junior or senior year; third term; 1 credit; 1 three-hour laboratory period. Fee \$4.00.
Mrs. Sara W. Prentiss

HS 420. **Diet in Disease.**

Prerequisite: HS 320. Elective in Home Economics; second or third term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$2.00.
Sybil Woodruff

HS 430. **Methods of Demonstration.** Public demonstrations in food selection and preparation; illustrative demonstrations by instructors.

Prerequisites: HS 213, 320. Elective in Home Economics; junior or senior year; second or third term; 1 credit; 1 three-hour laboratory period. Fee \$1.50.

HS 435. **Experimental Cookery.** Individual problems. Each student selects some piece of work concerned with foods or related subjects. Oregon products often furnish material for these experiments.

Prerequisite: HS 213. Elective in Home Economics; senior year; any term; 2 credits; 2 three-hour laboratory periods. Fee \$2.00.
Sybil Woodruff

HS 436. **Advanced Cookery.** This course is intended to acquaint the student with a great variety of food materials, and the more complicated processes of cookery. The food prepared to be adapted to different luncheons, dinners, afternoon teas and other functions.

Prerequisites: HA 213. Elective; third term; 2 credits; 1 lecture; 1 three-hour laboratory period. Fee \$5.00.

HS 450. **Camp Cookery.** A course designed to give advanced students of Home Economics training in application of principles of cookery to conditions found in camp.

Prerequisite: HS 320. Elective in Home Economics; senior year; third term; 1 credit; 1 three-hour laboratory period. Fee \$4.00.

HS 691, 692, 693. **Research in Foods.** Research problems for which the student is suited by previous training and ability. Assignment of problems by the professor in charge.

Elective; graduate year; three terms; credits and hours to be arranged.

VOCATIONAL COURSES

HS 11. **Foods and Cookery.** A study of the composition of foods and the principles underlying cookery of the different food-stuffs. Preservation of foods.

Required in Homemakers' Curriculum and Dietitians' Curriculum; first term; 4 credits; 1 recitation; 3 three-hour laboratory periods. Fee \$6.00.

Mrs. Sara W. Prentiss

HS 12. **Elementary Dietetics.** A simplified course in dietetics for the homemaker, with calculation of the energy value of dishes prepared.

Required in Homemakers' Curriculum; second term; 4 credits; 2 recitations; 2 three-hour laboratory periods. Fee \$4.00.

Mrs. Sara W. Prentiss

HS 13. **Elementary Dietetics.** A continuation of HS 12. Calculation of dietaries for families; meal planning and serving; study of digestion and assimilation.

Required in Homemakers' Curriculum; third term; 4 credits; 2 recitations; 2 three-hour laboratory periods. Fee \$4.00.

Mrs. Sara W. Prentiss

INSTITUTIONAL MANAGEMENT

Equipment. The new dormitory for women, with its modern equipment and conveniences; an attractive tea-room with the latest institutional devices for work; and cafeteria facilities for instruction, permit of offering the highest type of training in institutional management, for which there is an increasingly great demand.

COURSES

IM 310. Large-Quantity Cookery and Marketing. Application of the principles of cookery to the preparation of food in large quantities; planning and preparation of meals for dining-hall and cafeteria; calculation of cost and calories in standard servings; the study of the problems involved in the purchase of institutional supplies.

Prerequisite: HS 213 (except for students in one-year curriculum). Elective; any term; 3 credits; 3 three-hour laboratory periods.

Melissa Hunter

IM 330. Institutional Management Experience. Work in office of director of dormitories; studies of business methods employed; study of types of forms in use here and in different institutions for checking of bills, filing of bills and letters, requisitions, etc.; inventories including (1) linen and time studies of linen, mending, etc., (2) china and equipment in general, (3) furniture; training in stock taking, stock sheets, permanent records, perpetual inventories, etc.; study of wholesale prices of equipment, furniture, and foods; time studies of all work done in the dormitory and cafeteria with both regular and student help; time studies of different kinds of cleaning equipment.

Elective; any term; 3 credits; 3 three-hour laboratory periods.

Sibylla Hadwen, Melissa Hunter

IM 430. Tea-room Management. Training in various lines of management of tea-rooms, including plans, preparation, and service of luncheons to the public.

Prerequisite: HS 320 (except for students in one-year curriculum). Elective; any term; 5 credits; 1 lecture; 5 four-hour laboratory periods for six weeks.

IM 431. Advanced Institutional Management. Organization; standardization; scientific management applied to institutions; service and wages; methods of choosing and training employees;

welfare work among employees; duties of a manager; institutional work in other universities and colleges.

Prerequisite: IM 330. Elective; any term; 2 credits; 2 lectures.
Sibylla Hadwen, Melissa Hunter

IM 432. **Advanced Institutional Management Practice.** A continuation of IM 330. Responsibility of management; field work in different types of institutions.

Prerequisite: IM 330. Elective; any term; 3 credits; 3 three-hour laboratory periods.
Sibylla Hadwen

SCHOOL OF MINES

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.
CHARLES EDWARD NEWTON, B.S., E.M., Dean of the School of Mines.
MYRTLE BURNAP, B.S., Secretary to the Dean.

JAMES HERVEY BATCHELLER, S.B., Associate Professor of Mining.
DOUGLAS CLERMONT LIVINGSTON, B.S. (Mining Eng.), Professor of
Geology.

*Service Departments**

MAHLON ELLWOOD SMITH, Ph.D., Dean of the Service Departments;
Director of Summer Session.

JOHN FULTON, M.S., Professor of Chemistry.
CHARLES LESLIE JOHNSON, B.S., Professor of Mathematics.
WILLIAM BALLANTYNE ANDERSON, Ph.D., Professor of Physics.
EDWARD BENJAMIN BEATY, A.M., Associate Professor of Mathematics.
LOUIS SHERMAN DAVIS, Ph.D., Associate Professor of Chemistry.
FREDERICK CHARLES KENT, A.B., Associate Professor of Mathematics.
NICHOLAS TARTAR, B.S., Assistant Professor of Mathematics.
HARRY LYNDEN BEARD, B.S., Assistant Professor of Mathematics.
HAROLD KELLEY, B.S., Instructor in Chemistry.
JOHN ALBERT VAN GROOS, M.S., Instructor in Mathematics.
MCKINLEY HELM, B.S., Instructor in English.
JACOB JORDAN, Instructor in Physics.
OSMAN HORACE CADY, M.S., Instructor in Chemistry.
HARRY DRILL, A.B., Instructor in Physics.

*Other Schools and Departments**

JOHN ANDREW BEXELL, A.M., Dean of the School of Commerce.
ULYSSES GRANT DUBACH, Ph.D., Professor of Government and Business Law.
SAMUEL HERMAN GRAF, M.S., Professor of Mechanics and Materials.
JOSEPH KEPNER PARTELLO, Lieutenant Colonel United States Army;
Professor of Military Science and Tactics; Commandant of Cadets.
WALLACE HOPE MARTIN, M.E., Professor of Heat Engineering.
STUART HOBBS SIMS, B.S. in C.E., Professor of Civil Engineering.
RICHARD BURR RUTHERFORD, A.B., Professor of Physical Education
for Men; Director of Intercollegiate Athletics.

*Here are listed members of other faculties offering courses open to students in Mines.

NEWEL HOWLAND COMISH, M.S., Professor of Economics.

FLOYD ROWLAND, Ph.D., Professor of Chemical Engineering.

FRANK ABBOTT MAGRUDER, Ph.D., Associate Professor of Government and Business Law.

SAMUEL MICHAEL PATRICK DOLAN, C.E., Associate Professor of Civil Engineering.

DEXTER RALPH SMITH, B.S., Assistant Professor of Civil Engineering.

RAY BOALS, B.S., Assistant Professor of Mechanical Engineering.

IVAN FREDERICK WATERMAN, B.S., Instructor in Mechanics and Materials.

BURDETTE GLENN, B.S., Instructor in Civil Engineering.

WILLIAM HORNING, Instructor in Industrial Arts.

The curriculum in Mines is designed to give thorough training in the fundamentals of the science of Geology, and the arts of Mining and Metallurgy, and to prepare for positions of responsibility in the industrial life of the country, particularly in the mining field. The curriculum is of such a comprehensive character that a graduate finds it of aid in varied employments. The opportunities which are open to a graduate of the School of Mines include such positions as assayer, chemist, or metallurgist at mines and smelters; member of staffs of the Government and state geological surveys; member of the staff of the Government Coast and Geodetic Survey; land or deputy mineral surveyor; draftsman and designer in engineering establishments; member of the engineering and geological staffs of mining, oil, and exploration companies and of railroads; and worker in the land-classification work of the Government forest service. Graduates may expect that after having reached the necessary maturity they will be competent to fill responsible positions in any branches of geology, mining, and metallurgy.

Curriculum. A four-year curriculum, leading to the degree of Bachelor of Science in Mining Engineering, is offered by the School of Mines. Students showing ability are offered the opportunity and encouraged to take special work in that branch of the profession that most interests them, such as geology, mining, or metallurgy.

The first two years in the School of Mines are the same for all students. The work is intended to give the student a thorough knowledge of those studies basic to all branches of engineering; namely, Mathematics, Physics, Chemistry, Mechanical Drawing, Plane Surveying, Shop Work, and courses having general cultural value.

Two months or more employment in industrial lines closely allied to the student's major work is a prerequisite to graduation.

Admission. Detailed statements of entrance requirements, routine of registration, etc., are given in the special bulletin on "General Information," which is furnished on application. Requirements for admission to the curriculum in the School of Mines are as follows:

Applicants must be at least 16 years of age and must have completed 15 units of work in a secondary school recognized as standard, these units to include at least 3 units of English, and 1 unit each of Elementary Algebra and Plane Geometry, together with 5 additional units of English, Mathematics, Foreign Languages, Laboratory Sciences, and History (including Civics).

Equipment. The School of Mines occupies a commodious, three-story and basement building especially designed for housing the lecture rooms and laboratories devoted to Mining, Metallurgy, Ore Dressing, Geology, and closely allied subjects. The assaying and metallurgical laboratory occupies a room 30 feet by 60 feet on the first floor of the building, extending across the entire east end. It is amply lighted and is completely equipped with the necessary apparatus for conveniently and scientifically carrying on experimental metallurgical operations. A crushing and grinding laboratory and an ore-testing laboratory, completely equipped, occupy two rooms in the basement. On the second floor is located the mining drafting room, equipped for topographical drafting, mining and metallurgical design. The geology laboratories occupy the third floor of the Mines Building, and comprise the Geologic and Mining Museum, the mineralogic laboratory, and the petrologic laboratory. In the Museum are arranged collections of ores, minerals, and rocks from the important mining camps in Oregon. Besides these collections there are many attractive specimens of minerals, rocks, and fossils from numerous American localities. Geologic products are shown, such as samples of different clay wares and cement goods. In addition there is a large-scale relief map of the State. The geologic laboratories contain over 12,000 specimens of ores, rocks, and minerals; rock slides for microscopic work; and geologic and topographic maps.

Miners' Club. The Miners' Club is a society composed of all students and faculty members of the School of Mines. All members of this organization are also members of a junior branch of the American Institute of Mining and Metallurgical Engineers. At the monthly meetings of the Club, addresses are made by prominent mining engineers, and papers descriptive of the summer work of the students are presented by the student members.

DEGREE CURRICULUM IN MINING ENGINEERING

*B.S. Degree***Freshman Year**

| | 1st | Term 2d | 3d |
|--|------------------------|------------------------|------------------------|
| General Chemistry (Ch 104, 105, 106), Qualitative Analysis (Ch 131)..... | 5 | 5 | 5 |
| Plane Trigonometry (Mth 111), Elementary Analysis (Mth 131, 132)..... | 4 | 4 | 4 |
| Mechanical Drawing (ME 111, 112)..... | 2 | 2 | --- |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| Drawing and Descriptive Geometry (CE 113)..... | --- | --- | 2 |
| Elements of Geology (G 101)..... | 1 | --- | --- |
| Elements of Mining (MiE 142)..... | --- | 1 | --- |
| Elements of Metallurgy (Met 163)..... | --- | --- | 1 |
| Physical Education (PEm 111, 112, 113)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Sophomore Year

| | | | |
|--|------------------------|------------------------|------------------------|
| Quantitative Analysis (Ch 241, 242)..... | 3 | 3 | --- |
| Chemistry of Fuels (Ch 228)..... | --- | --- | 3 |
| Differential Calculus (Mth 251, 252), Integral Calculus (Mth 253)..... | 4 | 4 | 4 |
| Mining Physics (Ph 221, 222, 223)..... | 3 | 5 | 3 |
| Plane Surveying (CE 121)..... | --- | --- | 5 |
| Crystallography, Blowpipe Analysis, and Determinative Mineralogy (G 211, 212)..... | 5 | 3 | --- |
| Physical Education (PEm 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Junior Year

| | | | |
|--|----------|----------|----------|
| Mechanics (MM 351, 352)..... | 3 | 3 | --- |
| Lithology or Rock Study (G 311)..... | 3 | --- | --- |
| Structural Geology (G 312)..... | --- | 2 | --- |
| General Geology (G 301)..... | 3 | --- | --- |
| Mining Machinery and General Mining (MiE 343)..... | --- | --- | 3 |
| Geologic Surveying and Mapping (G 323)..... | --- | --- | 3 |
| Mine Surveying (MiE 353)..... | --- | --- | 3 |
| Assaying (Met 362)..... | --- | 4 | --- |
| Introduction to Economics (ES 391)..... | 3 | --- | --- |
| National Government (PS 301) or State and Local Government (PS 302)..... | --- | 3 | --- |
| Business Management (BA 332)..... | --- | --- | 3 |
| ①Electives | 3 | 3 | 3 |
| | <hr/> 15 | <hr/> 15 | <hr/> 15 |

①Suggested Electives: Strength of Materials (MM 353), Hydraulics (IE 344), Steam Machinery (ME 328).

Senior Year

| | Term | | |
|--|------|-----|-----|
| | 1st | 2d | 3d |
| Mining Methods (ME 441), Mining Engineering (MiE 442), Mine Management (MiE 443)..... | 4 | 4 | 3 |
| Metallurgy of Gold and Silver (Met 462), Metallurgy of Copper, Lead, and Zinc (Met 463)..... | --- | 4 | 4 |
| Ore Dressing (Met 481, 482, 483)..... | 3 | 3 | 3 |
| Metallurgical Laboratory (Met 492, 493)..... | --- | 3 | 3 |
| Metallurgy of Iron (Met 473)..... | --- | --- | 1 |
| General Metallurgy (Met 461)..... | 4 | --- | --- |
| Economic Geology (G 431, 432, 433)..... | 3 | 3 | 3 |
| ②Electives | 3 | 3 | 3 |
| | 17 | 20 | 20 |

②Suggested Electives: Technical Electricity (EE 251), Assaying (Met 651).

PROPOSED ELECTIVES

Public Speaking.
 Industrial Journalism.
 Money and Banking.
 Modern Languages.
 History.
 Library Practice.
 English.
 Industrial Arts courses (woodwork, machine work, auto mechanics, black-smithing, plumbing).
 Steam Power Plants.
 Masonry and Foundations.
 Industrial Inorganic Chemistry.
 Industrial Organic Chemistry.
 Electro-Chemical Industries.
 Forest Mapping.
 Contracts and Specifications.
 Engineering Location, Earthworks.
 Machine Design.
 Topographic Surveying.
 Advanced Quantitative Analysis.
 Metallography and Pyrometry.
 Advanced courses offered in the School of Mines.

NUMBERING AND ARRANGEMENT OF DESCRIPTIONS OF COURSES IN THIS CATALOGUE

Courses in degree curricula are designated by numbers of three digits in which the left-hand digit represents usually the year (as first, second, third, etc.) in which the course is normally pursued; the middle digit represents the group of related courses in the department to which the course belongs; and the right-hand digit represents the sequence of courses in cases where courses normally follow each other in succeeding terms.

GEOLOGY

The courses in Geology are designed primarily to give the student of Mining Engineering a sound knowledge of the principles of the many branches of the science, and a thorough training in geologic technique having a direct bearing upon the mining profession. Advanced technical courses in Geology are open to qualified students. Several geologic courses are especially designed for students in Agriculture, Civil Engineering, and Forestry.

COURSES

G 101. Elements of Geology. In order to have the simplest conception of the mining profession, one must have an elementary knowledge of Geology. The aim of this course is to give a general outline of the fundamentals of Geology and to show their correct application to mining engineering.

Required in Mines; elective to others; freshman year; first term; 1 credit; 1 lecture. *C. E. Newton*

G 103. General Geology for Foresters. Characteristics of the commoner minerals, rocks, and ores; the more important structural features of rocks and mineral deposits; the criteria for recognizing the various types of ore deposits; practice in the interpretation of geologic and topographic maps to enable students to make use of these maps in the field.

Prerequisite: General Chemistry. Elective in Forestry; freshman year; third term; 3 credits; 2 recitations; 1 laboratory period. Fee \$1.00. *D. C. Livingston*

G 202. Engineering Geology. A course in general and applied Geology for students in Engineering, emphasizing those phases of the subject with which the civil, irrigation, and highway engineer should be familiar. The origin and nature of the materials of the earth; review of geologic processes which modify the earth's surface; occurrence and nature of geologic structural and road materials; influence of structure of rocks on engineering projects; study of ground waters and effect on water supply and foundation sites; interpretation of geologic and topographic maps; occurrence of ores and other minerals of economic value.

Required in Civil Engineering (sophomore year); elective to others in Engineering (junior or senior year); second term; 3 credits; 3 recitations; 1 two-hour laboratory period. Fee \$2.00. Text: Ries and Watson, Engineering Geology. *D. C. Livingston*

G 211. Crystallography, Blowpipe Analysis, and Determinative Mineralogy. It is quite essential that the student should have a

practical understanding of Crystallography and to that end considerable time is spent upon the determination of natural crystals. Blowpipe analysis is essentially a field method for the chemical determination of minerals. Determinative Mineralogy, as the name indicates, is the utilization of many methods to determine minerals. Emphasis is given to those physical properties which may be used to determine minerals in the field.

Required in Mines; sophomore year; first term; 5 credits; 2 recitations; 4 two-hour laboratory periods. Fee \$4.00. Deposit \$1.50. Text: Moses and Parsons, Mineralogy, Crystallography, and Blowpipe Analysis. *D. C. Livingston*

G 212. **Mineralogy.** A continuation of Determinative Mineralogy, G 211. In addition a certain amount of time is spent in the study of the occurrence and origin of minerals.

Prerequisite: G 211. Required in Mines; sophomore year; second term; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$2.00. Deposit \$1.50. Text: Moses and Parsons, Mineralogy, Crystallography, and Blowpipe Analysis. *D. C. Livingston*

G 214. **Crystallography.** Briefer course than G 211.

Required in Chemical Engineering; sophomore year; first term; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$2.50. Deposit \$1.50. *J. H. Batcheller*

G 215. **Mineralogy.** Topics covered in G 212 adapted to needs of Chemical Engineering students.

Required in Chemical Engineering; sophomore year; second term; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$2.00. Deposit \$1.50. *J. H. Batcheller*

G 301. **General Geology.** Fundamental principles of Geology; practice in the interpretation of geologic and topographic maps; summary of the historical geology and stratigraphy of North America.

Prerequisite: General Chemistry. Required in Mines; elective to others; junior year; first term; 3 credits; 3 recitations. Fee \$1.00. Text: Pirsson and Schuchert, Textbook of Geology.

D. C. Livingston

G 302. **General Geology for Students in Agriculture.** This course is designed to present effectively the subject of Geology to the Agriculture student. The fundamental principles are given, and their application to agriculture is emphasized. In the laboratory the student studies the common minerals and rocks by practice with extensive collections, so that he may be able to identify them readily in the field. Two field trips are taken, that the student may gain first-hand knowledge of geologic processes.

Prerequisite: General Chemistry. Required in Landscape Gardening and Soils; elective to others in Agriculture; junior year; second term; 3 credits; 3 lectures; 1 two-hour laboratory period. Fee \$1.00.

J. H. Batcheller, D. C. Livingston

G 311. Lithology or Rock Study. This course is intended to familiarize the student with the characteristics of the commoner rocks so that he may identify them in the field. Rocks, their origin, mode of occurrence, and alteration; emphasis upon the numerous petrologic facts and principles which bear an immediate relation to mining operations.

Prerequisites: G 212 and 301. Required in Mines; junior year; first term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$1.00.

D. C. Livingston

G 312. Structural Geology. Continuation of G 311. This course treats of the greater features observed in the rocks, with emphasis on those important to the mining engineer, as faults, folds, and metamorphism.

Prerequisite: G 311. Required in Mines; junior year; second term; 2 credits; 1 lecture; 2 two-hour laboratory periods. Fee \$1.00.

D. C. Livingston

G 323. Geologic Surveying and Mapping. A study of the principles and methods of geologic surveying and mapping and their application to field work. The student is assigned a small area and is required to make a geologic map and report, based upon the results of his field work. A two-week trip is made to a mining locality showing a variety of geologic features.

Prerequisite: G 312. Required in Mines; junior year; third term; 3 credits; 1 recitation; 6 hours in field and laboratory. Fee \$2.00.

D. C. Livingston, J. H. Batcheller

G 413. Petrography. A more advanced course in Petrology. The optical properties of the rock-forming minerals and the characteristics of the principal rock types are studied with the aid of thin sections and polarizing microscope. Type collections with their corresponding rock sections are available, and the student has the opportunity to supplement field determinations with the exact knowledge gained through the use of the microscope.

Prerequisites: G 311 and 312. Elective; third term; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$3.00.

D. C. Livingston

G 422. Interpretation of Geologic and Topographic Maps. Study of the representation of geologic and topographic data; interpretation of geologic maps and cross-sections of topographic maps;

methods of plotting geologic data on engineering maps; a large number of Government and other geologic and topographic maps covering varied regions of the United States studied in detail.

Elective in Mines, Engineering, and Forestry; junior or senior year; second term; 2 credits; 2 laboratory periods. Fee \$1.00.

D. C. Livingston, J. H. Batcheller

G 431. Economic Geology. A study of the many and various factors pertaining to the application of geology to industry. Geologic occurrence of coal, petroleum, gas, clay, building stone, ore deposits, and the like is carefully studied and particular attention is given to those characteristics affecting economic value.

Required in Mines; senior year; first term; 2 credits; 2 recitations. Text: Lindgren, Mineral Deposits.

D. C. Livingston

G 432. Economic Geology. Continuation of G 431. The principles of ore deposition are taken up in detail.

Prerequisite: G 431. Required in Mines; senior year; second term; 3 credits; 3 recitations. Text: Lindgren, Mineral Deposits.

D. C. Livingston

G 433. Economic Geology. Various types of deposits that occur in important mining camps are discussed, and written abstracts are required from literature bearing on the subject. Considerable importance is attached to the laboratory work, which consists of mineralogic and petrologic study of rocks and ores from type deposits. A certain amount of time is devoted to a discussion of field methods, mine examinations, and reports.

Prerequisite: G 432. Required in Mines; senior year; third term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$1.00.

D. C. Livingston

G 632. Problems in Economic Geology. Problems in mining and field geology are worked out by the student in the laboratory and drafting room. Geologic, topographic, and mine maps are used, and many structural problems are studied, with special regard to their application to the development of mineral deposits.

Prerequisite: G 431. Elective; senior year; second term; 2 credits; 2 laboratory periods. Fee \$1.00.

D. C. Livingston

G 611. Geology of Igneous Rocks. A course dealing with the origin of igneous rock bodies and designed for graduate or advanced students. Such subjects as magnetic differentiation, the mechanism of intrusive and extrusive action, are discussed in detail, and special attention is given to those subjects that have an important technical bearing, such as contact metamorphism, magmatic waters, gaseous emanations, etc.

Prerequisite: G 413. Elective; first term; 2 credits; 2 recitations.
D. C. Livingston

G 621. **Historical Geology and Stratigraphy.** Lectures on the origin and history of the earth and plants and animals that have inhabited it; outline of invertebrate paleontology; principles on which is based the determination of the age of fossiliferous rocks by means of "faunal groups" and by recognition of characteristic species.

Prerequisite: G 312. Elective; first term; 3 credits; 3 recitations.
D. C. Livingston

G 622. **Oil Geology.** A course in the geology of petroleum consisting of a study of the origin, geologic occurrence, geologic structure and distribution of deposits of petroleum and natural gas, with special reference to the oil and gas fields of the United States, Mexico, and South America. Methods of exploring for oil, methods of mapping geologic structure, and methods of recording and filing geologic data bearing upon the geology of oil and gas, are studied.

Prerequisite: G 312. Elective; senior year; second term; 2 credits; 2 lectures or recitations; 1 laboratory period.

D. C. Livingston

METALLURGY

The aim of the various courses in Metallurgy is to give the student a broad and general knowledge of the methods of treating ores, metals, and other products of the mineral industry, including the processes of assaying, amalgamation, cyanidation; general milling methods, such as crushing, grinding, and concentration; and the smelting of ores for iron, copper, lead, and zinc, and the minor metals, and their refining.

COURSES

Met 163. Elements of Metallurgy. An introductory course in Metallurgy; various phases of the treatment of ores; use of fuels; the production of metals.

Required in Mines; elective to others; freshman year; third term; 1 credit; 1 lecture. *C. E. Newton*

Met 362. Assaying. The quantitative determination of the constituents of reagents; crushing, sampling and assaying of ores; fluxes, and general metallurgical products.

Required in Mines; junior year; second term; 4 credits; 1 recitation; 3 four-hour laboratory periods. Deposit \$15.00. Text: Fulton, Manual of Fire Assaying. *C. E. Newton*

Met 461. General Metallurgy. Application of the laws of Chemistry and Physics to metals and alloys; study of fuels, refractory materials, metals and alloys; furnaces and the principles of smelting.

Required in Mines; senior year; first term; 4 credits; 4 recitations. Text: Hofman, General Metallurgy. *C. E. Newton*

Met 462. Metallurgy of Gold and Silver. Study of the smelting, amalgamation, cyanidation, and other processes for the production of gold and silver from their ores.

Required in Mines; senior year; second term; 4 credits; 4 recitations. *C. E. Newton*

Met 463. Metallurgy of Copper, Lead, and Zinc. Study of the method of producing and refining; the economic conditions affecting the production of common non-ferrous metals.

Required in Mines; senior year; third term; 4 credits; 4 recitations. *C. E. Newton*

Met 473. Metallurgy of Iron. Study of the smelting of iron from its ores; the production of cast iron and wrought iron and the general varieties of steel.

Required in Mines; senior year; third term; 1 credit; 1 recitation.
Text: Bradley Stoughton, Metallurgy of Iron and Steel.

C. E. Newton

Met 481, 482, 483. **Ore Dressing.** The principles of breaking, grinding, concentrating; general treatment of ores by various processes.

Required in Mines; senior year; three terms; 3 credits each term; 3 recitations. Texts: Richards, Textbook of Ore Dressing. Rickard and Ralston, Flotation.

C. E. Newton

Met 492, 493. **Metallurgical Laboratory.** Laboratory testing in connection with Met 462, Metallurgy of Gold and Silver; Met 463, Metallurgy of Copper, Lead, and Zinc; and Met 481, 482, 483, Ore Dressing.

Required in Mines; senior year; second and third terms; 3 credits each term; 3 three-hour laboratory periods. Fee \$5.00. Deposit \$5.00 each term.

C. E. Newton, J. H. Batcheller

Met 651. **Assaying.** The quantitative determination of the constituents of ores, metallurgical products, and fuels.

Elective in Mines; senior year; first term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$5.00. Deposit \$5.00. Text: White, Methods in Metallurgical Analysis.

C. E. Newton

Met 661. **Metallurgy of the Minor Metals.** The metallurgy of mercury, tin, aluminum, nickel, arsenic, and antimony; study of the methods of production and the uses in the arts.

Elective; senior year; first term; 2 credits; 2 recitations.

C. E. Newton

Met 662. **Metallurgical Design.** Study of plant flow sheets; designing of apparatus for metallurgical operations; working up of flow sheets for milling, smelting, and leaching operations.

Elective; senior year; second term; 2 credits; 2 laboratory periods. Fee \$2.00.

C. E. Newton

Met 663. **Electrometallurgy.** The principles, processes, and apparatus involved in using electrical energy for the smelting and refining of ores and metals.

Elective; senior year; third term; 2 credits; 2 recitations.

C. E. Newton

MINING ENGINEERING

The courses in Mining Engineering are intended to equip the student with thorough knowledge of the basic principles of the art of mining which are essential in development of mineral properties, design and construction of mine plants, and management of mines.

COURSES

MiE 142. Elements of Mining. An introductory course designed to give the main features of mining, the aim being to summarize the phases that the student takes up in detail later in his work, to acquaint him early in his course with the life, the work, and the field of the profession.

Required in Mines; elective to others; freshman year; second term; 1 credit; 1 lecture.

C. E. Newton

MiE 143. Explosives: Their Properties and Use. This course offers an opportunity to students in Agriculture, Forestry, Civil Engineering, or others, to learn the principles of explosive action and to study the properties of explosives. Proper use of common high explosives; waste and danger of improper use; emphasis upon the various methods of using explosives as applied to farming, road building, etc.; actual field practice in loading and firing; blasting with the aid of electricity.

Prerequisite: General Chemistry. Elective; third term; 2 credits; 1 lecture each week; 4 three-hour laboratory periods during the term. Fee \$1.00.

J. H. Batcheller

MiE 243. Excavation, Explosives, and Blasting. Methods and cost of earth and rock excavation, tunneling, and shaft sinking; study of explosives used in mining and excavation work; methods of handling and storing explosives; methods of blasting.

Elective; sophomore year; third term; 3 credits; 3 lectures.

J. H. Batcheller

MiE 343. Mining Machinery and General Mining. A study of mining machinery and equipment used in general mining and prospecting work; brief discussions and illustrations of general mining operations, including metal, coal, and oil.

Required in Mines; junior year; third term; 3 credits; 3 recitations. Text: Young, Elements of Mining.

J. H. Batcheller

MiE 353. Mine Surveying. Study of the methods of surveying as used on surface and underground in connection with mining operations; United States land subdivision and mining laws; claim

surveys and locations; patent work; topographic surveys and maps; underground methods of traversing; stope measurement; connections; a field trip during the last two weeks of the term to some mine in the vicinity of the College.

Required in Mines; junior year; third term; 3 credits; 2 recitations; 1 laboratory period. Fee \$2.00. Text: Peele, Mining Engineers Hand Book. *J. H. Batcheller*

MiE 441. Mining Methods. A comprehensive study and comparison of all systems of mining; a detailed study of the advantages and disadvantages of various stoping methods, methods of development, and of carrying on simultaneously developing and producing.

Required in Mines; senior year; first term; 4 credits; 4 recitations. Texts: Young, Elements of Mining. Peele, Mining Engineers Hand Book. *J. H. Batcheller*

MiE 442. Mining Engineering. A study of the control and coordination of all the major activities of mine operations (developing, mining, transportation of ore, milling, production of power, and marketing of products), by cost accounting and technical records, supplemented by design of general plant mine layout and special features.

Prerequisite: MiE 441. Required in Mines; senior year; second term; 4 credits; 2 recitations; 2 three-hour laboratory periods. Fee \$2.00. Text: Hoover, Principles of Mining. *J. H. Batcheller*

MiE 443. Mine Management. A study of the economic factors affecting mining enterprises, the restrictions imposed by the mining laws of the United States, Canada, and Mexico, the methods of handling employees, the examination and appraisal of prospects and mines, methods of keeping abreast of progress in the profession through abstracts of current technical journals and mining institute publications.

Required in Mines; senior year; third term; 3 credits; 3 recitations. *J. H. Batcheller*

MiE 641. Mine Economics and Mining Law. Study of the costs of mining; methods of mine accounting and cost keeping; mining laws of the United States, Canada, and Mexico.

Elective; senior year; first term; 3 credits; 3 recitations.

J. H. Batcheller

MiE 642. Mine and Power Equipment. Study of surface and underground equipment for mines, including haulage systems, hoists, compressors, drills, pumps, etc.; discussion of the sources of power,

water, hydroelectric, steam, gas, and compressed air; problems illustrating their application to mining methods.

Elective; senior year; second term; 3 credits; 3 recitations.

J. H. Batcheller

MiE 643. **Mine Plant Design.** The student designs and details plans and specifications for mine equipment to meet the requirements of a hypothetical mine.

Elective; senior year; third term; 2 credits; 2 three-hour laboratory periods. Fee \$2.00.

J. H. Batcheller

SCHOOL OF PHARMACY

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.
ADOLPH ZIEFLE, Ph.C., M.S., Dean of the School of Pharmacy.
HERSCHEL BRIAN MCWILLIAMS, Ph.C., B.S., Assistant Professor of
Pharmacy.
MERRILL OLIVER RAWSON, Ph.B., B.S., Instructor in Pharmacy.
WALTON WINFIELD PARSONS, Ph.C., Assistant in Pharmacy.

*Service Departments**

MAHLON ELLWOOD SMITH, Ph.D., Dean of the Service Departments;
Director of Summer Session.
JOHN FULTON, M.S., Professor of Chemistry.
LOUIS BACH, M.A., Professor of Modern Languages.
GEORGE FRANCIS SYKES, A.M., Professor of Zoology and Physiology.
WILLIAM BALLANTYNE ANDERSON, Ph.D., Professor of Physics.
GODFREY VERNON COPSON, M.S., Professor of Bacteriology.
NATHAN FASTEN, Ph.D., Professor of Zoology and Physiology.
LOUIS SHERMAN DAVIS, Ph.D., Associate Professor of Chemistry.
GEORGE FRANCIS RICHARDSON, Ph.D., Assistant Professor of English.
HELEN MARGARET GILKEY, Ph.D., Assistant Professor of Botany.
JOSEPH ELLSWORTH SIMMONS, M.S., Assistant Professor of Bacteriology.
FRANCIS HENRY THURBER, M.A., Assistant Professor of Chemistry.
THOMAS WATSON, M.A., Assistant Professor of Chemistry.
MELISSA MARGARET MARTIN, A.B., B.S., Instructor in Modern Lan-
guages.
HAROLD KELLY, B.S., Instructor in Chemistry.
ETHEL TAYLOR, A.B., Instructor in Modern Languages.
OSMAN HORACE CADY, M.S., Instructor in Chemistry.
HORACE WILLISTON, A.B., Instructor in English.
ABRAHAM SCHWARTZ, B.S., Instructor in Chemistry.

*Other Schools and Departments**

JOHN ANDREW BEXELL, AM., Dean of the School of Commerce.
MARY ELIZA FAWCETT, M.A., Dean of Women.
HECTOR MACPHERSON, Ph.D., Professor of Economics and Sociology.
ULYSSES GRANT DUBACH, Ph.D., Professor of Government and Busi-
ness Law.

*Here are listed members of other faculties giving instruction open to students in Pharmacy.

JOSEPH KEPNER PARTELLO, Lieutenant Colonel of Infantry, United States Army; Professor of Military Science and Tactics; Commandant of Cadets.

EDNA AGNES COCKS, M.A., Professor of Physical Education for Women.

RICHARD BURR RUTHERFORD, A.B., Professor of Physical Education for Men.

NEWEL HOWLAND COMISH, M.S., Professor of Economics.

FRANK ABBOTT MAGRUDER, Ph.D., Associate Professor of Government and Business Law.

WILLIAM HENRY DREESEN, Ph.D., Assistant Professor of Economics and Sociology.

The School of Pharmacy was established in 1898 by the Board of Regents of the College upon petition of the druggists of the State, to meet the growing demand for thorough practical and theoretical training in Pharmacy and related branches. From its inception it has grown steadily and has always had a place in the front rank of the profession.

Curricula. Three degree curricula are offered: a four-year curriculum leading to the degree of Bachelor of Science in Pharmacy; a three-year curriculum leading to the degree of Pharmaceutical Chemist; a two-year curriculum leading to the degree of Graduate in Pharmacy. Since the Pharmacy curricula contain all subjects required by medical schools for entrance, students can elect any of these curricula and complete their pre-medical work in two years. This same advantage is afforded students who contemplate entering the profession of dentistry. In addition to the above, students who have not completed a full four-year high school course may register in the School as special students, not candidates for a degree. These students have the same privileges in the election of courses as do the degree students, but more especially in preparation for State pharmacy examinations. All special students should confer with the Dean regarding their credentials before registering.

Purpose of Training. Since the establishment of the School of Pharmacy in the College, consistent endeavor has been made to provide well-balanced courses that will fit students not only for practical drug-store work, but for a variety of positions in pharmaceutical, analytical, and medical chemistry. Students are trained not only in technique, power of observation, and the principles of Pharmacy, but also in resourcefulness, initiative, and individual responsibility.

Standard of Work. All work offered in the School meets the highest requirements of pharmaceutical instruction in this country. The School is a member of the American Conference of Pharmaceutical Faculties, and all of its courses are registered by the New York Board of Higher Education. The facilities for instructional work are good, and because of the broad training that students derive from laboratory work, this is made a special feature of the School. Diplomas as well as all work of students in this School will be recognized by all state boards of pharmacy which require attendance in a school of pharmacy as a prerequisite for registration.

Methods of Instruction. Lecture periods are fifty minutes each, laboratory periods two or three hours, depending upon the character of the work. Courses continue through the regular college year of nine months. As the schedule of study is prepared at the beginning of each term of twelve weeks, it is impossible until that time to state the exact hour when certain courses will be given. As a general rule, students spend approximately three-fourths of their time in lecture and laboratory work.

Requirements of the Profession. For the practice of pharmacy today high requirements must be met. Public sentiment has demanded enactment of stringent laws. It is now a necessity that a pharmacist have scientific training such as cannot be obtained by merely working in a drug store. College training is necessary. State boards of pharmacy, recognizing the importance of college training as a means of insuring accurate preparation and dispensing of medicines, are requiring college training before the student is eligible to take the state examination. The Oregon Board of Pharmacy requires that, beginning January 1, 1920, all candidates for examination must have attended a recognized school of pharmacy for one year. Beginning January 1, 1922, all applicants must be Graduates in Pharmacy.

Demand for Graduates. The demand for educated pharmacists was never so great as it is today. The demand is for those having business capacity, industry, integrity, and a good pharmaceutical education. Because of the responsibility of the profession, in no line of work is expert knowledge more necessary than in pharmacy. State and Federal pure food and drug laws make it now a necessity that a pharmacist be thoroughly familiar with all drugs and their preparation.

Opportunity for Graduates. Graduates in pharmacy are capable of occupying a number of different kinds of positions because of the broad training they receive. In the degree curricula students receive

intensive and varied training which fits them to be analytical chemists, prescription dispensers, manufacturing pharmacists and chemists, food and drug inspectors, traveling salesmen, bacteriologists, physicians' assistants, and experts in other positions requiring a knowledge of pharmacy, chemistry, and medicine. There is no field which offers greater opportunities for women than pharmacy. The work is clean, pleasant, and agreeable; and because of the neatness and accuracy necessary in the dispensing of drugs, women are peculiarly adapted to it.

State Pharmacy Examinations. Since all students in pharmacy are required to pass the State pharmacy examinations in order to become registered pharmacists, preparation for these examinations is a special feature of the work of the School. Aside from enabling the student to become a registered pharmacist, however, the aim of the School is to afford him an opportunity to obtain a thorough foundation in the principles of pharmacy and chemistry in order that he may successfully continue his studies after leaving College.

Oregon Law Relating to the Practice of Pharmacy. The Oregon Pharmacy Law is enforced by the Oregon State Board of Pharmacy. This Board recognizes two classes of pharmacists; namely, registered pharmacists and assistant registered pharmacists. The Board outlines the scope and duties of each as regards the dispensing of prescriptions, sale of poisons, and the manufacture of medicines. A registered pharmacist is one who has met all of the requirements of the Board of Pharmacy including the passing of an examination. He can operate a drug store, compound medicinal preparations, dispense prescriptions, sell poisons, as well as train assistant pharmacists. An assistant registered pharmacist has met certain requirements of the Board including the passing of an examination. His duties are to assist the registered pharmacist, but he is not eligible to compound medicines, operate a drug store, sell poisons, dispense prescriptions, etc.

Before any candidate is eligible to take the State pharmacy examination, either for registered pharmacist or assistant registered pharmacist, he must be over 18 years of age and must have had a definite amount of practical drug-store experience under the supervision of a registered pharmacist in a store where drugs are compounded and dispensed. A resume of the new Oregon Pharmacy Law as passed by the 1921 session of the State Legislature is as follows:

Registered Pharmacist. Beginning July 1, 1921, all candidates for examination as registered pharmacists must be over 18 years old and must have completed one year's work of a degree course in Pharmacy in a school or college of pharmacy which is a member of the American Con-

ference of Pharmaceutical Faculties. In addition to this, the applicant must have had an amount of practical drug-store experience under the direct supervision of a registered pharmacist, in order that the total of school experience and practical drug-store experience will amount to four years, or forty-eight months. The Oregon Law further provides that not more than twenty-four months of actual school experience may be substituted for the required practical experience.

Beginning January 1, 1922, all candidates for examination as registered pharmacists must have attended at least two years at a school or college of pharmacy recognized by the American Conference of Pharmaceutical Faculties during which time they must be registered in a degree course in Pharmacy. In addition, the applicant must present evidence of having had at least thirty months practical drug-store experience under the supervision of a registered pharmacist. Provided, however, that twenty-four months of school experience may be used as practical experience.

Assistant Registered Pharmacist. Candidate must be over eighteen years of age, and he must show evidence of having had three years' practical drug-store experience. Two years of practical experience may have been spent in a recognized school or college of pharmacy. An assistant registered pharmacist is eligible to take the state pharmacy examination for full registration as soon as he can meet the requirements of the Pharmacy Board as regards educational training and practical drug store experience.

With the exception of two states, every state board of pharmacy in the United States is a member of the National Association of Boards of Pharmacy. The aim of this Association is to raise the standards of pharmacy examinations in order that none but qualified pharmacists may dispense physicians' prescriptions. The standards for state examinations are now so high that applicants without college training have difficulty in making the necessary grades. All graduates of this School of Pharmacy have been successful in passing the State pharmacy examinations and all have made creditable averages. Through a reciprocity agreement all registered pharmacists are eligible to practice pharmacy in forty-three other states without further examination.

Pre-medical Course. Students desiring to prepare for entrance into medical or dental schools will find that the fundamental courses required are given to advantage in the School of Pharmacy. In order to be eligible to clear entrance into any Class A medical school, students must present evidence of graduation from an accredited four-year high school, or the equivalent of fifteen high school units, as well as the completion of two years of college work made up of courses in Chemistry, Zoology, Physiology, Physics, Modern Languages, Economics, Political Science, English, and other cultural subjects. Many schools of medicine are requiring three years of pre-medical training; therefore, any student beginning his pre-medical course in the school year 1921-22 should plan on a three-year course.

It is not necessary that a student graduate from a degree course to be eligible to enter a medical school. All that is required is a

transcript showing the completion of certain courses which are outlined by the Council on Medical Education and published annually in the August number of the Journal of the American Medical Association.

The following is a list of the subjects required for students desiring to enter a medical school beginning with the fall of 1921-22. Students may learn of the specific requirements of any medical school through the Dean of the School of Pharmacy.

PRE-MEDICAL SUBJECTS. SIXTY SEMESTER HOURS REQUIRED.

| <i>Required subjects:</i> | <i>Semester hours</i> |
|--|---------------------------|
| Chemistry (a) | 12 |
| Physics (b) | 8 |
| Biology (c) | 8 |
| English Composition and Literature (d)..... | 6 |
| Other non-science subjects (e)..... | 12 |
| <i>Subjects strongly urged:</i> | |
| French or German (f)..... | 6-12 |
| Advanced Botany or Advanced Zoology..... | 3- 6 |
| Psychology | 3- 6 |
| Advanced Mathematics, including Algebra and Trigonometry | 3- 6 |
| Additional courses in Chemistry..... | 3- 6 |

Other suggested electives:

English (additional), Economics, History, Sociology, Political Science, Logic, Mathematics, Latin, Greek, Drawing.

A semester hour is the credit value of sixteen weeks of work consisting of one lecture or recitation period a week, each period to be not less than fifty minutes net, at least two hours of laboratory work to be considered as the equivalent of one lecture or recitation period.

The Oregon State Agricultural College offers many courses in scientific and cultural subjects and for this reason it maintains the largest scientific laboratories in the State. These laboratories, together with the adequate facilities for thorough instruction, make the institution an ideal place for pre-medical training.

In addition to the regular instruction in pre-medical subjects, the School of Pharmacy offers to pre-medical students training in the compounding and dispensing of drugs. This is an advantage to students in medicine, as they become more or less familiar with remedies before they take up their medical courses.

All courses in Pharmacy may be counted toward graduation. If a student completes the four-year curriculum, he has clear entrance into any Class A medical school; he is also eligible to take the examinations of any state board of pharmacy. A special advantage to medical students in being registered pharmacists is the fact that they can then earn a part of their way through school by working in a drug store, acquiring valuable experience through contacts with the prescriptions and remedies used to alleviate disease.

The following is recommended as an ideal high school course as preparation for pre-medical work:

| | <i>Units</i> |
|------------------------|--------------|
| English | 4 |
| Algebra | 1½ |
| Geometry | 1 |
| Physics | 1 |
| Chemistry | 1 |
| History | 1 |
| Latin | 2 |
| Foreign Language | 2 |
| Electives | 1½ |
| Total | 15 |

Pharmacy as a Profession for Women. Reports from all schools of Pharmacy in the United States show that the number of women studying pharmacy is increasing annually. There is no field that offers greater opportunities for women. Women are especially well adapted for success in pharmacy. The work is clean and agreeable. Preparing and dispensing drugs involves the traits of neatness and accuracy that, generally speaking, are more predominant in women than in men. In store arrangement, window trimming, and other work requiring some knowledge of color harmony and display, a woman is naturally more adept than a man. As over seventy-five percent of all drugs and druggists' sundries are purchased by women, it follows that these patrons would prefer to deal with women.

The School of Pharmacy graduates one or more women each year and all are successful in their present positions. The College has an enrollment of over a thousand women, and takes special pride in providing all conveniences for them such as gymnasium, dormitories, women's associations, etc.

Correspondence. Inquiries regarding the School of Pharmacy may be addressed to the Dean or to the Registrar of the College. Students desiring to enter will be provided with proper blanks for filing credentials. These may be obtained from the Registrar's office.

Equipment. The School of Pharmacy has its lecture rooms and laboratories in Science Hall, a building which conveniently meets the need for space, light, and ventilation.

All laboratories and lecture rooms are splendidly equipped with all apparatus necessary for practical pharmaceutical instruction. Students have individual desks which are supplied with the apparatus necessary for the specific course. Students can borrow as much additional apparatus as they may need from the pharmacy stock-room. In order to save as much of the students' time as possible and make possible higher efficiency in laboratory courses, all stock

is placed on side shelves. By this means students can repeat an experiment as many times as are necessary to get accurate results.

In addition to the usual permanent fixtures and apparatus for individual students, the School is supplied with a number of pieces of special apparatus such as pharmaceutical stills, tablet and pill machines, filter presses, hand and power drug mills, special percolators, gas and electric drying ovens, and such other apparatus as is necessary for modern pharmaceutical instruction. The pharmacognosy room contains several hundred samples of crude drugs, official and unofficial preparations, and active principles of drugs used for study and identification purposes. There is also a collection of authentic crude drugs and their preparation donated by Eli Lilly Company. This collection is used as a standard for all new supplies of drugs received. The special laboratory for Commercial Pharmacy is very well equipped for sign-card painting and display material. In addition to brushes, pens, paints, and other apparatus used in show-card work, each desk is provided with an air-brush outfit useful in shading of letters and drawings.

Four-year Curriculum. This curriculum is academic and professional in nature and is therefore the most satisfactory one to elect. Upon completion of the required subjects, students are granted the degree of Bachelor of Science in Pharmacy (B.S.). This curriculum includes all professional work of the two-year and three-year curricula as well as all pre-medical subjects. Graduates of this curriculum are prepared for any position requiring a knowledge of drugs and chemicals. Aside from a thorough training in Pharmacy and Chemistry, students in this curriculum are also instructed in Bacteriology, Physiology and Zoology, Physics, English, Modern Languages, Pharmaceutical Botany, Business Law, and Military Science and Tactics.

Three-year Curriculum. This curriculum leads to the degree of Pharmaceutical Chemist (PhC.) and is offered to meet the demand of many students desiring to prepare for special lines of work, such as commercial chemists, food and drug inspectors and analysts, clinical chemists for physicians. Pre-medical students find this curriculum the most satisfactory to elect, as they can complete pre-medical subjects as well as all professional Pharmacy subjects in three years. They are then eligible to take the examinations of the Oregon State Board of Pharmacy, and if successful, they can practice pharmacy in any of forty-three states without further examination.

All work of the two-year curriculum is required in the three-year curriculum unless other arrangements are made. The courses of the third year are elective and are designed to qualify students for

special lines of work. Any selection of courses, however, can only be made after consultation with the Dean.

Two-year Curriculum. This curriculum leads to the degree of Graduate in Pharmacy (Ph.G), and comprises the more practical courses in Pharmacy. It prepares directly for drug-store and dispensing practice and provides a groundwork in analytical chemistry necessary for the practice of pharmacy. The plan of study appeals especially to young men and women who desire to prepare for state pharmacy examinations. The curriculum meets all of the requirements of the Oregon State Pharmacy Law as well as those of other states requiring attendance in a school of pharmacy before a student can take the state examinations. If they so desire, students completing this curriculum may continue with the work of either the three-year or the four-year curriculum.

Admission. Detailed statements of entrance requirements, routine of registration, etc., are given in the special bulletin on "General Information," which is furnished on application. Requirements for admission to the School of Pharmacy are as follows:

Degree Curricula: Applicants must be at least 16 years of age and must have completed 15 units of work in a secondary school recognized as standard, these units to include (a) at least 3 units of English, and 1 unit each of Elementary Algebra and Plane Geometry; (b) 5 additional units of English, Mathematics, Foreign Languages, Laboratory Sciences, and History (including Civics); and (c) 5 units of any subjects credited towards graduation by standard Oregon high schools.

Special Students: The facilities of the School of Pharmacy are open to students who cannot meet the entrance requirements of the curricula leading to degrees. Such special students have the same privileges as students in degree curricula, and are subject to the same college regulations as other undergraduate students. Special students may not be candidates for a degree until they have fulfilled all college requirements, including those for admission to freshman standing.

Students are not required to have had drug-store experience upon entering the College. Such experience is very desirable, however, and students are advised to acquire one or preferably two years before taking up the courses in Pharmacy. No secondary or advanced credits are allowed for drug-store experience, but the State Board of Pharmacy requires a definite amount of practical experience before registration can be granted.

FOUR-YEAR CURRICULUM IN PHARMACY

*B.S. Degree**** Freshman Year**

| | Term | | |
|--|------------------------|------------------------|------------------------|
| | 1st | 2d | 3d |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| General Chemistry (Ch 104, 105, 106)..... | 5 | 5 | 2 |
| Qualitative Analysis (Ch 131)..... | --- | --- | 3 |
| General Zoology (ZP 101, 102, 103)..... | 3 | 3 | 3 |
| Pharmaceutic Botany (Bot 107, 108, 109)..... | 3 | 3 | 3 |
| Elementary Pharmacy (Phr 111, 112, 113)..... | 1 | 1 | 1 |
| Gymnasium for Men (PEm 111, 112, 113)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Gymnasium for Women (PEW 111, 112, 113)..... | (1) | (1) | (1) |
| Social Ethics (PEW 121), Hygiene for Women (PEW 122) | (1) | (1) | --- |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Sophomore Year

| | | | |
|--|------------------------|------------------------|------------------------|
| Organic Chemistry (Ch 226, 227)..... | 5 | 5 | --- |
| Quantitative Analysis (Ch 244)..... | --- | --- | 5 |
| Mammalian Anatomy (ZP 211, 212, 213)..... | 3 | 3 | 3 |
| Pharmaceutical Latin (Phr 220) | 3 | --- | --- |
| Modern Language | 3 | 3 | 3 |
| Introduction to Economics (ES 391)..... | --- | 3 | --- |
| Business and Rural Law (PS 163)..... | --- | --- | 3 |
| Gymnasium for Men (PEm 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Gymnasium for Women (PEW 211, 212, 213)..... | (1) | (1) | (1) |
| Military Science and Tactics | 2 | 2 | 2 |
| | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ |

Junior Year

| | | | |
|---|----------|----------|----------|
| Theoretical Pharmacy (Phr 311)..... | 4 | --- | --- |
| General Bacteriology (Bac 204, 332, 333)..... | 3 | 3 | 3 |
| Modern Language | 3 | 3 | 3 |
| Practical Pharmacy (Phr 333)..... | --- | --- | 3 |
| Pharmaceutical Preparations (Phr 343)..... | --- | --- | 3 |
| Pharmacognosy (Phr 351, 352)..... | 2 | 4 | --- |
| Inorganic Pharmacy (Phr 353)..... | --- | --- | 3 |
| Alkaloidal Testing (Ch 371)..... | 3 | --- | --- |
| Drug Assaying (Ch 374)..... | --- | 3 | --- |
| Pharmaceutical Calculations (Phr 321)..... | --- | 2 | --- |
| Electives | 3 | 3 | 3 |
| | <hr/> 18 | <hr/> 18 | <hr/> 18 |

* As one year of college Physics is required by all medical schools for entrance, it is suggested that all students pursuing this curriculum arrange to elect Physics during their freshman year.

Senior Year

| | Term | | |
|---|------|-----|-----|
| | 1st | 2d | 3d |
| Materia Medica (Phr 451, 452, 453)..... | 3 | 3 | 3 |
| U. S. Pharmacopoeia and National Formulary (Phr 431, 432, 433)..... | 3 | 3 | 3 |
| Food and Drug Analysis (Ch 377)..... | 4 | 3 | --- |
| Prescription Lectures (Phr 461)..... | --- | 4 | --- |
| Prescription Incompatibilities (Phr 462)..... | --- | --- | 3 |
| Prescription Compounding (Phr 463)..... | 3 | --- | --- |
| Manufacturing Pharmacy (Phr 441)..... | --- | --- | 5 |
| Physiological Chemistry (Ch 461)..... | 3 | --- | --- |
| Business Organization (BA 331)..... | 1 | 4 | 3 |
| Electives | 17 | 17 | 17 |

THREE-YEAR CURRICULUM IN PHARMACY

Ph.C. Degree

(Suggested Program)

First Year

| | | | |
|--|------------------|------------------|------------------|
| General Chemistry (Ch 104, 105, 106)..... | 5 | 5 | 2 |
| Qualitative Analysis (Ch 131)..... | --- | --- | 3 |
| General Zoology (ZP 101, 102, 103)..... | 3 | 3 | 3 |
| Physics (Ph 111, 112, 113)..... | 3 | 3 | 3 |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| Elementary Pharmacy (Phr 111, 112, 113)..... | 1 | 1 | 1 |
| Gymnasium (PEm 111, 112, 113)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ |

Second Year

| | | | |
|---|------------------|------------------|------------------|
| Organic Chemistry (Ch 226, 227)..... | 5 | 5 | --- |
| Physiology and Anatomy (ZP 211, 212, 213)..... | 3 | 3 | 3 |
| Theoretical Pharmacy (Phr 311)..... | 4 | --- | --- |
| Pharmacognosy (Phr 351, 352)..... | 2 | 4 | --- |
| French or German..... | 3 | 3 | 3 |
| Pharmaceutical Preparations (Phr 343)..... | --- | --- | 3 |
| Pharmaceutical Calculations (Phr 321)..... | --- | --- | 2 |
| Economics, Sociology, Psychology or Political Science | --- | --- | 3 |
| Gymnasium (PEM 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | 19 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | 16 $\frac{1}{2}$ |

Third Year

| | 1st | Term 2d | 3d |
|---|-----|------------|-----|
| General Bacteriology (Bac 204), Pharmacy Bacteriology (Bac 332), Immunity and Serum Therapy (Bac 333) | 3 | 3 | 3 |
| Materia Medica (Phr 451, 452, 453) | 3 | 3 | 3 |
| U. S. Pharmacopoeia and National Formulary (Phr 431, 432, 433) | 3 | 3 | 3 |
| Prescription Lectures (Phr 461) | 3 | --- | --- |
| Prescription Incompatibilities (Phr 462) | --- | 3 | --- |
| Prescription Compounding (Phr 463) | --- | --- | 3 |
| Manufacturing Pharmacy (Phr 441) | 3 | --- | --- |
| Alkaloidal Testing (Ch 371) | --- | 3 | --- |
| Drug Assaying (Ch 374) | --- | --- | 3 |
| Electives | 4 | 5 | 4 |
| | 19 | 20 | 19 |

The foregoing outline is suggested because it is the one generally elected by students taking the three-year curriculum. Not only does it provide for a thorough course in Pharmacy, but it includes all pre-medical subjects required by medical schools for entrance. Upon completion of the work of this course students will be granted the degree of Ph.C., and after completing their medical course they will be recommended for the degree of Bachelor of Science in Pharmacy (B.S.). Students not contemplating a medical course may elect in place of the strictly pre-medical subjects such courses as: Botany, Quantitative Analysis, Food and Drug Analysis, Advanced Organic Chemistry, business courses, etc. All elections, however, must be approved by the Dean.

TWO-YEAR CURRICULUM IN PHARMACY

Ph.G. Degree

First Year

| | 1st | Term 2d | 3d |
|---|------------------|------------------|------------------|
| General Chemistry (Ch 104, 105, 106) | 5 | 5 | 2 |
| Qualitative Analysis (Ch 131) | --- | --- | 3 |
| Pharmaceutical Latin (Phr 220) | 3 | --- | --- |
| Inorganic Pharmacy (Phr 353) | --- | --- | 3 |
| Pharmacognosy (Phr 351, 352) | 2 | 4 | --- |
| Theoretical Pharmacy (Phr 311) | 4 | --- | --- |
| Practical Pharmacy (Phr 333) | --- | 3 | --- |
| Pharmaceutical Preparations (Phr 343) | --- | --- | 3 |
| Pharmaceutical Calculations (Phr 321) | --- | --- | 2 |
| English Composition (Eng 101, 102, 103) | 3 | 3 | 3 |
| Gymnasium (PEm 111, 112, 113) | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 2 | 2 | 2 |
| | 19 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | 18 $\frac{1}{2}$ |

Second Year

| | Term | | |
|---|------------------------|------------------------|------------------------|
| | 1st | 2d | 3d |
| Organic Chemistry (Ch 226, 227)..... | 5 | 5 | ... |
| Materia Medica (Phr 451, 452, 453)..... | 3 | 3 | 3 |
| U. S. Pharmacopoeia and National Formulary (Phr 431, 432, 433)..... | 3 | 3 | 3 |
| Prescription Lectures (Phr 461)..... | 4 | --- | --- |
| Prescription Incompatibilities (Phr 462)..... | --- | 4 | --- |
| Prescription Compounding (Phr 463)..... | --- | --- | 3 |
| Manufacturing Pharmacy (Phr 441)..... | 3 | --- | --- |
| Alkaloidal Testing (Ch 371)..... | --- | 3 | --- |
| Drug Assaying (Ch 374)..... | --- | --- | 3 |
| Gymnasium (PEm 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| Elective | --- | --- | 2 |
| | <hr/> 20 $\frac{1}{2}$ | <hr/> 20 $\frac{1}{2}$ | <hr/> 16 $\frac{1}{2}$ |

NUMBERING AND ARRANGEMENT OF DESCRIPTIONS OF COURSES IN THIS CATALOGUE

Courses in degree curricula are designated by numbers of three digits in which the left-hand digit represents usually the year (as first, second, third, etc.) in which the course is normally pursued; the middle digit represents the group of related courses in the department to which the course belongs; and the right-hand digit represents the sequence of courses in cases where courses normally follow each other in succeeding terms.

COURSES IN PHARMACY

Phr 111. **Elementary Pharmacy.** The purpose of this course is to acquaint entering students of the four-year curriculum with the general scope and purpose of the work they have chosen as a profession. The course deals with the history of Pharmacy and its development, standard pharmaceutical literature, and other elementary phases of Pharmacy.

Required in four-year curriculum in Pharmacy; freshman year; first term; 1 credit; 1 lecture. *A. Ziefle*

Phr 112. **Elementary Pharmacy.** Continuation of Phr 111. Nomenclature of the U. S. Pharmacopoeia; drugs, weights, and measures; elementary pharmaceutical operations.

Required in four-year curriculum in Pharmacy; freshman year; second term; 1 credit; 1 lecture. *A. Ziefle*

Phr 113. **Elementary Pharmacy.** The general processes of drug manufacture considered with the view of familiarizing the student with all pharmaceutical apparatus and methods.

Required in four-year curriculum in Pharmacy; freshman year; third term; 1 credit; 1 lecture. Text: Arny, Principles of Pharmacy. *A. Ziefle*

Phr 220. **Pharmaceutical Latin.** Properly trained pharmacists need knowledge of Latin etymology and construction in order to understand the use and terminology of pharmaceutical and medicinal terms. Emphasis is placed upon pronunciation, declension, English translation, comparison, abbreviations, and vocabularies.

Required in Pharmacy; sophomore year; first term; 3 credits; 3 recitations. Text: Muldoon, Pharmaceutical Latin.

H. B. McWilliams

Phr 221. **Commercial Pharmacy.** The special feature of this course is sign-card painting. Simple lettering is the basis of the work for the first part of the course; later simple signs are designed.

Elective in Pharmacy; any term; 2 credits; 3 two-hour laboratory periods. Fee \$3.50. Deposit \$0.50. *M. O. Rawson*

Phr 222. **Commercial Pharmacy.** A continuation of Phr 221 with the added feature of designing sign-cards in colors and painting on cloth, canvas, and glass.

Elective in Pharmacy; any term; 2 credits; 3 two-hour laboratory periods. Fee \$3.50. Deposit \$0.50. *M. O. Rawson*

Phr 223. **Commercial Pharmacy.** A continuation of Phr 222 with work in shading with the air brush and other methods of the art of display.

Elective in Pharmacy; any term; 2 credits; 3 two-hour laboratory periods. Fee \$3.50. Deposit \$0.50. •*M. O. Rawson*

Phr 224. **Advertising Display.** The principles of art and decoration applied to the arrangement of retail stores and display of merchandise; lettering; sign and card painting; lettering in colors on cloth, canvas, and glass; shading with the use of the air brush. (Especially adapted to students in Commerce.)

Elective; any term; 3 credits; 3 three-hour laboratory periods. Fee \$3.50. Deposit \$0.50. *M. O. Rawson*

Phr 311. **Theoretical Pharmacy.** Systematic study of the processes in operative pharmacy; study of standard pharmaceutical books, weights and measures, heat, distillation, solution, extraction in its various forms, and other processes used in the manufacture of galenical preparations.

Required in Pharmacy; junior year; first term; 4 credits; 2 lectures; 2 recitations. Text: Arny, Principles of Pharmacy.

A. Ziefle

Phr 321. **Pharmaceutical Calculations.** Study of calculations common to pharmacy; weights and measures; percentage solutions; alligations; specific gravity; thermometers.

Prerequisites: Phr 311; Ch 104, 105. Required in Pharmacy; junior year; third term; 2 credits; 1 lecture; 1 recitation. Text: Stevens, Pharmaceutical Arithmetic.

M. O. Rawson

Phr 333. **Practical Pharmacy.** Natural products used in pharmacy explained and demonstrated; study of the various types of galenical preparations as outlined in Part II of Arny's Principles of Pharmacy.

Prerequisites: Phr 311; Ch 104, 105. Required in Pharmacy; junior year; second term; 3 credits; 2 lectures; 1 recitation. Texts: Arny, Principles of Pharmacy. Ruddiman, Why's in Pharmacy.

A. Ziefle

Phr 343. **Pharmaceutical Preparations.** Laboratory work in the preparation of simple galenicals, such as waters, pills, emulsions, and extracts. All work is under supervision of instructors, and the finished products are carefully inspected in order to prevent inaccuracies and to insure neatness. Frequent identification examinations of preparations are held to familiarize students with the characteristics of the drugs they use.

Prerequisites: Phr 333; Ch 104, 105. Required in Pharmacy; junior year; third term; 3 credits; 3 three-hour laboratory periods. Texts: U. S. Pharmacopoeia. National Formulary. Fee \$8.50. Deposit \$1.50.

M. O. Rawson

Phr 351. Pharmacognosy. Study of animal and vegetable drugs with reference to their habitat, botanical classification, official titles, synonyms, constituents, uses, identification, and standardization.

Prerequisites or parallel: Phr 311; Ch 106, 131. Required in Pharmacy; junior year; first term; 2 credits; 2 lectures; 1 recitation. Text: Culberth, *Materia Medica*. Fee \$2.50. *H. B. McWilliams*

Phr 352. Pharmacognosy. A continuation of Phr 130.

Required in Pharmacy; junior year; second term; 4 credits; 3 lectures; 2 recitations. Texts: Culberth, *Materia Medica*. Lilly, *Organic Drugs*. Fee \$2.50. *H. B. McWilliams*

Phr 353. Inorganic Pharmacy. Inorganic chemicals and their preparations used in medicine. Part III of Arny's *Principles of Pharmacy* is used as a lecture outline for this course. In the laboratory students make representative samples of certain types of chemicals, testing for such impurities as arsenic, lead, antimony, and study authentic samples of inorganic drugs for identification purposes.

Prerequisites: Phr 333, 343; Ch 104, 105. Required in Pharmacy; junior year; third term; 3 credits; 1 lecture; 1 recitation; 1 three-hour laboratory period. Text: Arny, *Principles of Pharmacy*. Fee \$5.00. Deposit \$1.00. *M. O. Rawson*

Phr 431. U. S. Pharmacopoeia and National Formulary. Every substance listed in the United States Pharmacopoeia and National Formulary as well as many unofficial drugs and preparations in the dispensaries are studied. Emphasis is placed on composition, uses, methods of manufacture, reasons for each step in the process of manufacture, and all other important data concerning the drug.

Prerequisites: Phr 333, 343; Ch 106, 131. Senior year; first term; 3 credits; 1 lecture; 2 recitations. Texts: U. S. Pharmacopoeia. National Formulary. Ruddiman, *Why's in Pharmacy*. *A. Ziefle*

Phr 432. U. S. Pharmacopoeia and National Formulary. A continuation of Phr 431, with frequent reports on all pharmaceutical literature especially as regards the newer remedies proposed since the last revision of the U. S. P. and N. F.

Prerequisites: Phr 431; Ch 226. Senior year; second term; 3 credits; 1 lecture; 2 recitations. Texts: U. S. P. and N. F. *A. Ziefle*

Phr 433. U. S. Pharmacopoeia and National Formulary. A continuation of Phr 432 with the added feature of preparing students for the State pharmacy examinations. In addition to a complete review of all pharmacy subjects and the study of typical state board questions, students are grounded in pharmaceutical legislation, identification of drugs and preparations, as well as in other subjects

which will prepare students not only for the state examinations but for efficient service in practical drug-store work.

Prerequisite: Phr 432. Senior year; third term; 3 credits; 1 lecture; 2 recitations. Texts: U. S. P. and N. F. *A. Ziefle*

Phr 441. **Manufacturing Pharmacy.** This course is a continuation of the course in Pharmaceutical Preparations and deals with the manufacture of the more difficult pharmaceuticals involving complex chemical reactions. Students assay their own products when practicable.

Prerequisites: Phr 333, 343; Ch 106, 131. Required; senior year; first term; 3 credits; 3 three-hour laboratory periods. Texts: U. S. P. and N. F. Fee \$8.50. Deposit \$1.50. *M. O. Rawson*

Phr 451. **Materia Medica.** Study of the action and uses of chemicals, drugs, and their preparations, in the human organism, in health and disease; drugs classified into groups according to their action; the dose of medicines; toxicology from the point of view of action of poisons, their absorption, elimination, identification, and antidotes.

Prerequisites: Phr 343, 352; Ch 106, 131. Required in Pharmacy; senior year; first term; 3 credits; 1 lecture; 2 recitations. Text: Cushny, Pharmacology. *H. B. McWilliams*

Phr 452. **Materia Medica.** A continuation of Phr 451.

Prerequisites: Phr 451, Ch 226. Required in Pharmacy; senior year; second term; 3 credits; 1 lecture; 2 recitations. Text: Cushny, Pharmacology. *H. B. McWilliams*

Phr 453. **Materia Medica.** A continuation of Phr 452 with preparation for state board examinations in this subject. State and national laws receive special attention.

Prerequisite: Phr 452. Required in Pharmacy; senior year; third term; 3 credits; 1 lecture; 2 recitations. Text: Cushny, Pharmacology. *H. B. McWilliams*

Phr 461. **Prescription Lectures.** Theory of prescription compounding practically as outlined in Scoville's Art of Compounding. The aim is to give such theoretical instruction as will enable the student to devise the best method of compounding drugs. Special attention is given to the "newer remedies" and such proprietaries as are used extensively.

Prerequisites: Phr 343, 352, 353; Ch 106, 131. Required in Pharmacy; senior year; first term; 4 credits; 2 lectures; 2 recitations. Text: Scoville, Art of Compounding. *M. O. Rawson*

Phr 462. **Prescription Incompatibilities.** Several hundred incompatible prescriptions studied from the point of view of the cause of

the incompatibility as well as the best method of overcoming the same; current pharmaceutical and medical literature abstracted in order that students may become familiar with the reactions of the newer remedies.

Prerequisites: Phr 461, Ch 226. Required in Pharmacy; senior year; second term; 4 credits; 2 lectures; 2 recitations. Text: Ruddiman, *Incompatibilities in Prescriptions*. *M. O. Rawson*

Phr 463. **Prescription Compounding.** In this course the students are expected to apply the principles learned in Phr 461 to the actual compounding of prescriptions. Over one hundred prescriptions are compounded, representing all types generally met with in actual practice. The latter part of the course deals with the management of a prescription department, the compounding of toilet and domestic preparations, as well as many other methods common to a pharmacy.

Prerequisites: Phr 462, Ch 227. Required in Pharmacy; senior year; third term; 3 credits; 3 three-hour laboratory periods. Text: Scoville, *Art of Compounding*. Fee \$8.50. Deposit \$1.50.

A. Ziefle, M. O. Rawson

SCHOOL OF VOCATIONAL EDUCATION

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.
EDWIN DEVORE RESSLER, A.M., Dean of the School of Vocational Education; Professor of Education.
CLYTIE MAY WORKINGER, Secretary to the Dean.

Agricultural Education

EARL DEWITT DOXSEE, B.S., Instructor in Agricultural Education.
STEPHEN EDWARD SMITH, B.S., Critic Teacher in Agricultural Education.

Industrial Education

FRANK HENRY SHEPHERD, A.M., Professor of Industrial Education.
AMBROSE REUBEN NICHOLS, B.S., Instructor and Critic Teacher in Industrial Education.

Psychology

JESSE FRANKLIN BRUMBAUGH, LL.B., A.M., Professor of Psychology.

Home Economics Education

BERTHA STEWART DAVIS, M.S., Field Supervisor in Home Economics Education.
HATTY ROSELLE DAHLBERG, B.S., A.M., Associate Professor of Home Economics Education.
LURA AMELIA KEISER, B.S., Critic Teacher in Home Economics Education.
GLADYS WHIPPLE, B.S., Critic Teacher in Home Economics Education.

Commercial Education

HERBERT TOWNSEND VANCE, Professor of Commercial Education.
BERTHA HALL, Critic Teacher in Commercial Education.

*Service Departments**

MAHLON ELLWOOD SMITH, Ph.D., Dean of the Service Departments.
FREDERICK BERCHTOLD, A.M., Professor of English Language and Literature.
JOHN FULTON, M.S., Professor of Chemistry.
GEORGE FRANCIS SYKES, A.M., Professor of Zoology and Physiology.
CHARLES BUREN MITCHELL, M.A., Professor of Public Speaking.

*Here are listed members of other faculties offering instruction open to students in Vocational Education.

NATHAN FASTEN, Ph.D., Professor of Zoology and Physiology.
LOUIS SHERMAN DAVIS, Ph.D., Professor of Chemistry.
SIGURD HARLAN PETERSON, B.A., Assistant Professor of English.
LOREN BURTON BALDWIN, A.M., Assistant Professor of English.
GEORGE REUBEN VARNEY, A.B., D.D., Assistant Professor of Public Speaking.
EARL GIBERT, M.S., Instructor in Chemistry.

*Other Schools and Departments**

MARY ELIZA FAWCETT, A.M., Dean of Women.
HECTOR MACPHERSON, Ph.D., Professor of Economics and Sociology;
Director of Bureau of Organization and Markets.
ULYSSES GRANT DUBACH, Ph.D., Professor of Government and Business Law.
FRANCIS LAWRENCE SNOW, Professor of Industrial Journalism.
JOSEPH KEPNER PARTELLO, Lieutenant Colonel of Infantry, United States Army; Professor of Military Science and Tactics; Commandant of Cadets.
EDNA AGNES COCKS, A.M., Professor of Physical Education for Women.
RICHARD BURR RUTHERFORD, A.B., Professor of Physical Education for Men.
NEWEL HOWLAND COMISH, M.S., Professor of Economics.
FRANK ABBOTT MAGRUDER, Ph.D., Associate Professor of Government and Business Law.

Systematic teacher-training was begun in the Oregon Agricultural College in 1909 with the establishment of a department of Industrial Pedagogy. This was in response to a demand by the public schools for qualified teachers of agriculture, commercial subjects, home economics, and manual training. The growth of the department, requiring specialists in methods and supervised teaching, made advisable a school organization, which was effected in 1918, with six departments. From the beginning and after the organization of the School, students preparing to teach have been registered in the schools in which their technical subjects are taught. Thus the prospective teacher of (a) agriculture received his degree in the School of Agriculture, (b) commercial subjects in the School of Commerce, and likewise in other lines.

Curriculum. Beginning with the year 1921-22, the School of Vocational Education is authorized to offer the B.S. degree. Students preparing to teach who enter the College as freshmen, however, are advised to register as heretofore in the degree curriculum

in the school offering the technical work desired. The Oregon School Law grants a high-school teaching certificate to graduates of any degree curriculum offered in the College to students who have taken $22\frac{1}{2}$ term credits (15 semester credits) in Education. Students should consult the Dean of the School of Vocational Education in scheduling Education credits. The new degree curriculum is planned especially for students who desire to major in Vocational Education. Thirty-six credits in Education are prescribed and provision is made for additional Education credits under electives. In addition to the subjects prescribed by College regulations, general or cultural courses are recommended in recognition of the need of a broad training by the teacher, whose duties call for leadership outside the walls of the classroom. Several classes of students should profit by the new degree curriculum.

(1) There is an increasing number of graduates of two-year standard normal-school courses and of transfers from colleges and other higher educational institutions, who are coming to the College with one or more years of college credit on entrance. Some of these students desire a more general course in vocational subjects than the degree curricula prescribed in the technical schools. The degree curriculum in Vocational Education, with its electives, makes possible the acceptance of college credits from other institutions and thus enables the student to enroll in the technical courses for which he came to the institution and still graduate within the four years generally allotted to an undergraduate course.

(2) Some students desire to prepare for supervisory and administrative vocational positions calling for more general courses than can be secured in any one of the technical schools. The large cities have such supervisors and smaller cities offering a variety of vocational courses are beginning to appoint them. There is a good field for specialization in this line. Such students desire to take technical courses in several schools and a larger number of courses in the pedagogical phases of vocational education.

(3) There are other students who wish to prepare to teach a combination of vocational branches, such as agriculture and manual training, commerce and home economics; or a combination of vocational branches with "related subjects," such as home economics and natural science, manual training and mathematics. There is, and will continue to be for many years, a considerable demand for such teachers in the smaller high schools of Oregon.

(4) A demand has recently arisen for instructors who are prepared to teach in vocational schools in the so-called "related subjects," including mechanical drawing, designing, shop mathematics, industrial chemistry, physics, business English, commercial

geography, commercial law, etc. The Federal and State Boards for Vocational Education make provision for the employment of such teachers under the Smith-Hughes Act. The Oregon Board of Vocational Education has assigned to this institution such teacher-training.

Opportunities. For the past several years, from fifty to seventy-five graduates annually have prepared to teach vocational subjects. Appointments exceeding one hundred, including previous graduates, are made each year to positions in Oregon, other Pacific Slope states, and also in the Middle West and the East. The principal field of service is in high schools, but an increasing number receive appointments in normal schools, colleges, and universities.

The School is called on to supply vocational teachers who are able to meet the standards set by the State Board of Vocational Education in accordance with the requirements of the Smith-Hughes Act. Teachers meeting these requirements, and securing positions under direction of the State Board, receive part of their salaries from Federal and State funds. The School of Vocational Education has been designated by the Board to train such teachers.

The School of Vocational Education makes provision for giving further professional training to teachers in service and pedagogical training to men and women who already have technical knowledge and skill in a particular trade and desire training in teaching in that field. The College offers special opportunities to graduates of normal schools and schools of education, with teaching experience, for technical training in some line of vocational education or for special training in teaching and supervising vocational subjects.

Students are advised to consider carefully the selection of teaching as a vocation. Thorough scholarship and fair command of spoken and written English are fundamental essentials for success in the vocation of teaching. Personality, character, and professional aptitude are also demanded. Only capable candidates will be recommended for teaching positions.

Equipment. The technical courses of the School of Vocational Education are given in the Schools of Agriculture, Commerce, Engineering, Home Economics, and the Service Departments, making available all their equipment to the students and instructors in the School of Vocational Education. The instructors in the professional courses in Education also use this equipment. For the courses in supervised teaching, there is available, in addition, the equipment of the Corvallis public schools through a joint arrangement between the Corvallis Board of Education and the Board of Regents of the College.

Admission. Detailed statements of entrance requirements, routine of registration, etc., are given in the special bulletin on "General Information," which is furnished on application. Requirements for admission to the curriculum in Vocational Education are as follows:

Applicants must be at least 16 years of age and must have completed 15 units of work in a secondary school recognized as standard, these units to include (a) at least 3 units of English, and 1 unit each of Elementary Algebra and Plane Geometry, (b) 5 additional units of English, Mathematics, Modern Languages, Laboratory Sciences, and History (including Civics), and (c) 5 units selected from any subjects credited towards graduation by standard high schools of Oregon.

DEGREE CURRICULUM IN VOCATIONAL EDUCATION

(*B.S. Degree*)*

Freshman Year.

| | 1st | Term | |
|--|-------------------|-------------------|-------------------|
| | | 2d | 3d |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| General Chemistry (Ch 101, 102, 103)..... | 3 | 3 | 3 |
| Library Practice (Lib 100)..... | — | — | 1 |
| Gymnasium (PEw 111, 112, 113) (women)..... | 1 | 1 | 1 |
| Social Ethics (PEw 121), Hygiene (PEw 122) (women) | 1 | 1 | — |
| Gymnasium (PEm 111, 112, 113) (men)..... | ($\frac{1}{2}$) | ($\frac{1}{2}$) | ($\frac{1}{2}$) |
| Military Science and Tactics (men)..... | (2) | (2) | (2) |
| Technical electives* | 8 | 8 | 8 |
| | — | — | — |
| | 16 | 16 | 16 |

Sophomore Year.

| | | | |
|--|-------------------|-------------------|-------------------|
| Introduction to Education (Ed 302)..... | — | 2 | — |
| History of Education (Ed 341)..... | 3 | — | — |
| Vocational Education (Ed 323)..... | — | — | 2 |
| Extempore Speaking (PSP 254) | 3 | — | — |
| English Drama (Eng 212)..... | — | 3 | — |
| Contemporary English Literature (Eng 323)..... | — | — | 3 |
| General Zoology (ZP 101, 102)..... | 3 | 3 | — |
| General Physiology (ZP 321)..... | — | — | 5 |
| Gymnasium (PEm 211, 212, 213) (men)..... | ($\frac{1}{2}$) | ($\frac{1}{2}$) | ($\frac{1}{2}$) |
| Gymnasium (PEw 211, 212, 213) (women)..... | 1 | 1 | 1 |
| Military Science and Tactics (men)..... | (2) | (2) | (2) |
| Technical electives* | 6 | 7 | 5 |
| | — | — | — |
| | 16 | 16 | 16 |

*Subject to approval of the Dean.

Junior Year.

| | 1st | Term | |
|---|-----|------|------|
| | | 2d | 3d |
| Introduction to Accounting (BA 231)..... | 3 | .... | .... |
| Introduction to Economics (ES 391)..... | | 3 | .... |
| Elementary Psychology (Psy 301)..... | 3 | .... | .... |
| Principles of Teaching (Ed 313)..... | | 2 | .... |
| Educational Psychology (Psy 322)..... |  | .... | 3 |
| Courses in Secondary Education..... | | 3 | 3 |
| Introduction to Sociology (ES 393)..... |  | .... | 3 |
| Elementary Industrial Journalism (IJ 200, 310)..... | 3 | 3 | .... |
| Technical and other electives*..... | 7 | 5 | 7 |
| | 16 | 16 | 16 |

Senior Year.

| | | | |
|---------------------------------------|----|------|------|
| Comparative Governments (PS 401)..... | 4 | .... | .... |
| Courses in Vocational Education..... | 5 | 5 | 5 |
| International Relations (PS 402)..... | | 4 | .... |
| National Government (PS 301)..... |  | .... | 3 |
| Technical and other electives*..... | 7 | 7 | 8 |
| | 16 | 16 | 16 |

NUMBERING AND ARRANGEMENT OF DESCRIPTIONS OF COURSES IN THIS CATALOGUE

Courses in degree curricula are designated by numbers of three digits in which the left-hand digit represents usually the year (as first, second, third, etc.) in which the course is normally pursued; the middle digit represents the group of related courses in the department to which the course belongs; and the right-hand digit represents the sequence of courses in cases where courses normally follow each other in succeeding terms.

*Subject to approval of the Dean.

AGRICULTURAL EDUCATION

The function of this department is to train men and women as teachers and supervisors of Agriculture in elementary and secondary schools, and to develop leadership in rural life and education. Special attention is given to training of directors, supervisors, and teachers of Vocational Agriculture as provided for by the Federal law for vocational education known as the Smith-Hughes Act.

For the prescribed freshman and sophomore courses consult the catalogue of the School of Agriculture. For a degree in Agriculture with a minor in Agricultural Education, at least fifty percent of a student's credits should be in agricultural and related science subjects, including Farm Mechanics, Animal Husbandry, Soils and Crops, Horticulture, Farm Management. Not less than twenty-two and a half term credits shall be in Education, including Educational Psychology, Introduction to Education, Vocational Education, Secondary Education in Agriculture, and Supervised Teaching. The prospective teacher of Agriculture should confer with the head of the department of Agricultural Education in planning his entire course during the junior and senior years.

COURSES

AEd 401. Secondary Education in Agriculture. Aims, materials, and methods relating to the teaching of vocational agriculture in the secondary school.

Prerequisites: Ph 322, Ed 302. Required in Agricultural Education; senior year; first or third term; 3 credits; 2 recitations; ½-hour laboratory period.
E. D. Doxsee

AEd 402. Secondary Education in Agriculture. Continuation of AEd 401.

Prerequisite: AEd 401 or equivalent. Required in Agricultural Education; senior year; second term; 3 credits; 2 recitations; ½-hour laboratory period.
E. D. Doxsee

AEd 412. Supervised Teaching in Secondary Agriculture.

Prerequisites: AEd 401, 402. Required in Agricultural Education; senior year; any term; 3 credits; 3 double periods.

E. D. Doxsee, S. E. Smith

AEd 413. Supervised Teaching in Secondary Agriculture. Continuation of AEd 412.

Prerequisite: AEd 412 or equivalent. Required in Agricultural Education; senior year; third term; 3 credits; 3 double periods.

E. D. Doxsee, S. E. Smith

AEd 421, 422. **Elementary Education in Agriculture.** Aims, materials, and methods of teaching and supervising pre-vocational agriculture and elementary science in the upper elementary grades or junior high school.

Elective; junior or senior year; first and second terms; 3 credits each term; 2 recitations; $\frac{1}{2}$ -hour laboratory period.

AEd 431. **Rural Education.** A consideration of the school in its relations to other educational agencies in rural communities.

Elective; junior or senior year; second term; 3 credits; 3 recitations.

AEd 432. **Club Work.** A lecture course in club work, for the training of paid county club leaders, covering the history and scope of the work and its organization, projects, program of work, records, reports, and training of judging and demonstration teams.

Elective; junior or senior year; first or second term; 2 credits; 2 recitations.

AEd 433. **General Agriculture for Teachers.** The subject-matter as covered by the State course of study and the texts adopted for both elementary and high schools; methods of teaching developed in their application.

Elective; junior or senior year; first or third term; 3 credits; 2 recitations; 1 double period laboratory and field work.

HEd 443. **Extension Methods.** General methods of extension work in agriculture and home economics. For prospective agricultural and home demonstration agents, club leaders, and other extension workers. (See HEd 443, page 21.)

AEd 482, 483. **Seminar in Agricultural Education.** A discussion of special problems in the teaching of agriculture and in the administration of agricultural education.

Required of graduate students and elective for seniors in Agricultural Education; second and third terms; time and credits to be arranged.

COMMERCIAL EDUCATION

The department of Commercial Education has been organized to meet the steadily growing demand for well-equipped teachers of commercial branches in secondary schools. Such teachers are prepared in cooperation with the School of Commerce. The curriculum in the School of Commerce leading to the degree of Bachelor of Science makes possible reasonable preparation for commercial teaching. In the selection of their collegiate courses in both Commerce and Education, students should advise with the head of the department of Commercial Education. This department provides an equipment for teachers of commercial science in secondary schools that will place them and their work on a parity with those of other longer established and more fully developed departments of the high school.

The twenty-two and one-half credits in Education required for a certificate to teach in four-year high schools, issued without examination, may be earned during the college course, preferably in the junior and senior years. Vocational Psychology and Introduction to Education should be taken before any methods course. The required Education courses must include one course in Secondary Education in Commerce and one course in Supervised Teaching in Commerce, the latter in the senior year. Supervised teaching is done in a public high school where conditions are normal and the practice real.

COURSES

CEd 451. Secondary Education in Commerce. Principles of education as applied to the teaching of shorthand, typewriting, business English, and bookkeeping in high schools; rapid review of subject-matter with model lessons in each subject; lectures covering aims, materials, methods of presentation, organization of courses, and arrangement of curriculum.

Prerequisites: OT 203, BA 103, Psy 301 or 312, Ed 302. Required of students preparing to teach stenographic subjects; junior year (third term) or senior year (first term); 3 credits; 3 lectures.

H. T. Vance

CEd 452. Secondary Education in Commerce. Same as CEd 451, with special methods in teaching Accounting, Business Law, Economics, and Commercial Geography.

Prerequisites: BA 203, PS 202, ES 203, Psy 301 or Ed 302, Psy 312. Required of students preparing to teach accounting subjects; senior year; first or second term; 3 credits; 3 lectures.

H. T. Vance

CEd 461. Supervised Teaching in Commerce. Facilities are afforded students in Commercial Education to secure experience in teaching classes in stenographic subjects both at the College and at the Corvallis High School.

Prerequisite: CEd 451. Elective; senior year; any term; 5 credits; 1 lecture; 5 double periods. *H. T. Vance*

CEd 462. Supervised Teaching in Commerce. Same as CEd 461, with supervised teaching in subjects of accounting group.

Prerequisite: CEd 452. Elective; senior year; any term; 5 credits; 1 lecture; 5 double periods. *H. T. Vance*

CEd 470. Organization and Administration of Commercial Education. This course is planned for individuals who aspire to attain administrative positions in the field of commercial education. Following is a partial list of topics discussed: objective evidence of the need of commercial education; analysis of business needs; business problems; employment; office training; types of commercial schools; educational store service; salesmanship; office experience through a cooperative plan; constructive supervision; the relation of the Federal Government to the administration of Commercial Education.

Prerequisites: CEd 451, 452. Elective; senior year; any term; 3 credits; 3 lectures. *H. T. Vance*

EDUCATION

This department gives general courses in Education upon which courses in special methods are based. The courses are open to all students prepared to take them.

COURSES

Ed 302. **Introduction to Education.** Brief discussion of the meaning, function, and scope of education; organization and function of each division of the American system; school and class management; general method; all with particular reference to the vocational teacher.

Required; junior year; any term; 2 credits; 2 recitations.

E. D. Ressler

Ed 313. **Principles of Teaching.** Application of the laws of psychology to teaching; type lessons, lesson plans, supervised study, measuring results; application of general principles to the teaching of vocational subjects.

Elective; junior year; first or third term; 2 credits; 2 recitations.

E. D. Ressler

Ed 323. **Vocational Education.** Arranged to meet the needs of those preparing to teach any phase of vocational education. History and function of vocational education; development in the United States; requirements of Federal-aided schools and departments under the Smith-Hughes Act.

Required; junior year (third term) or senior year (first or second term); 2 credits; 2 recitations.

F. H. Shepherd

Ed 341. **History of Education.** A general review of the growth and development of education and its relation to the civilization of the times; particular attention given to the rise of industrial education in Europe and America, and its place in the social and political life of the country.

Elective; sophomore or junior year; first term; 3 credits; 3 recitations.

J. F. Brumbaugh

Ed 431. **Vocational Guidance.** An investigation of the means and methods of assisting pupils of upper grammar grades and high school in studying the problems of their future vocations; studies of occupations with essential qualifications for success in leading types; value of "life career" motive in education; survey of state and local resources as guides to choice, etc.

Elective; junior or senior year; second term; 2 credits; 2 recitations.
F. H. Shepherd

Ed 452. **School Administration.** A discussion and analysis of the American system of education, with an interpretation of the purpose and spirit of each division; problems of administration and teaching; correlation of the vocational branches with other subjects in the curriculum.

Elective; advanced or graduate students; second term; 2 credits; 2 recitations.
E. D. Ressler

Ed 461. **School Hygiene.** A course in the health provisions requisite for the hygienic conduct of education. Oregon laws, regulations of the State Board of Health, and other State and local authorities explained in detail.

Elective; advanced or graduate students; first term; 2 credits; 2 recitations.

Ed 491, 492, 493. **Investigation.** Advanced or graduate students qualified by previous training or experience may register for extended investigation of some specific problem in vocational education. These studies are assigned and outlined by the instructor and stated reports are made from time to time by the student.

Elective; advanced or graduate students; three terms; credits to be arranged.

HOME ECONOMICS EDUCATION

The function of this department is to give professional training to prospective teachers and extension workers in Home Economics.

(For the four-year curricula leading to the bachelor's degree in Home Economics see the Home Economics section of the Catalogue.)

COURSES

HEd 304. Secondary Education in Home Economics. A brief history of Home Economics instruction and of the development of elementary and secondary Home Economics; equipment and organization of Home Economics departments; a careful study of the means and methods of Home Economics instruction; outlines of course of study.

Required of all students preparing to teach Home Economics; junior year (second or third term) or senior year (first term); 3 credits; 3 recitations.

Hatty R. Dahlberg

HEd 305. Secondary Education in Home Economics. Observations of teaching, making of lesson plans; study of special problems and the preparation and collection of illustrative material.

Prerequisites: HEd 304, Psy 301. Required of all students preparing to teach Home Economics; junior year (third term) or senior year (first or second term); 3 credits; 3 recitations.

Hatty R. Dahlberg

HEd 421. Supervised Teaching in Home Economics. Observation and teaching under supervision. Teaching field includes grades and high school in city, small town, and rural district. Cadet or apprentice positions provide additional experience.

Prerequisite: HEd 305. Required of all students preparing to teach Home Economics; senior year; any term; 5 credits; 2 recitations; 5 double periods supervised teaching.

Hatty R. Dahlberg, Lura Keiser, Gladys Whipple

HEd 422. Supervised Teaching in Home Economics. Continuation of HEd 421. An advanced course.

Prerequisite: HEd 421 or teaching experience. Elective; senior year; any term; 3 credits; 5 periods teaching.

Hatty R. Dahlberg, Lura Keiser, Gladys Whipple

HEd 443. Extension Methods. This course is planned to give to successful teachers and others qualified and interested in extension work, the extension aim and point of view, presenting a discussion of organization and administration, executive problems, relationships, methods of work, and programs.

Elective; senior year; third term; 2 credits; 2 lectures; 4 hours outside preparation.

Jessie Biles

INDUSTRIAL EDUCATION

This department gives professional training to teachers of the trades and industries, Manual Training, and Industrial Arts. Although the College does not give technical training for all the trades and industries, this department makes provision for giving further professional training to teachers in service and pedagogical training to men and women who have technical knowledge and skill in particular trades which they purpose to teach. Courses are given in Portland as well as in Corvallis. Those who are contemplating training for teaching the trades and industries should make inquiry concerning the particular line in which they may be interested. The institution is prepared at the present time to give training in the following trades: plumbing, foundry work, blacksmithing, carpentry, cabinet-making, and machine-shop practice.

COURSES

IEd 303. Special Methods in Trades and Industries. The organization, administration, and teaching of industrial subjects to conform to the requirements of the Smith-Hughes Act; investigation into the values of different elements of selected trades or industries for the purpose of selecting a well-balanced course of study; lectures, readings, discussions, and written reports.

Prerequisites: Psy 301 or 312, Ed 302. Required of students preparing to teach a trade or industry; junior year (third term) or senior year (first term); 4 credits; 4 recitations. *F. H. Shepherd*

IEd 343. Special Methods of Manual Training. A careful, detailed study of the public-school course of study in Manual Training in its various relations; model courses of study for both elementary and secondary grades outlined; plans for desirable equipment for shop and classroom.

Prerequisites: Psy 301 or 312, or Ed 302. Required in Industrial Arts; junior year (third term) or senior year (first term); 4 credits; 4 recitations. *F. H. Shepherd*

IEd 382. Theory and Practice of Elementary Manual Arts. For supervisors of industrial arts in the lower grades. Investigation of the present trend of the manual arts movement; arrangement of a suggestive course of study; plan of equipment; ordering of supplies, etc.; lectures; assigned readings, reports, and practical shop work.

Required in Industrial Arts; elective to others; junior or senior year; second term; 3 credits; 2 recitations; 1 two-hour laboratory period. *A. R. Nichols*

IEd 421. **Supervised Teaching in Trades and Industries.** The student is required to arrange and submit definite plans and outlines of the subject, job, or lesson to be taught. Reports to the director, supervisor, or critic teacher are made for the purpose of perfecting the student teacher in the technique of the trade of teaching.

Prerequisite: IEd 303. Required of students preparing to teach a trade or industry; senior year; first or third term; 5 credits; 1 recitation; 5 double periods. *A. R. Nichols*

IEd 461. **Supervised Teaching in Manual Training.** Required of all seniors in Industrial Arts.

Prerequisite: IEd 343. Required in Industrial Arts; senior year; any term; 5 credits; 1 recitation; 5 double periods. *A. R. Nichols*

PSYCHOLOGY

This department gives the courses in Psychology upon which the studies in education are built and such other courses as directly affect human behavior. All courses are elective to students prepared to take them.

COURSES

Psy 301. **Elementary Psychology.** A preparatory course in the fundamentals of mental life from the functional standpoint; emphasis upon the application of psychical laws to the ordinary affairs of life.

Required; junior year; any term; 3 credits; 3 lectures.

J. F. Brumbaugh

Psy 312. **Vocational Psychology.** Application of psychological laws to the active pursuits of life; the field of habit in relation to skill and economy; perception in relation to accuracy in space discrimination; color, weight, shape, and tactile sensations; motor response in relation to stimulation, coordination, and inhibition; memory, suggestion, and imitation in relation to business pursuits; the psychology of commerce as it develops in the relation of man to man, of trust and faith in human affairs, modes of activity, etc.

Required for prospective Smith-Hughes teachers; junior or senior year; first or third term; 3 credits; 3 lectures.

J. F. Brumbaugh

Psy 322. **Educational Psychology.** Follows Psy 301. Principles and laws of mental life and development as applied to the teaching process; psychological value of the various methods and paraphernalia of school life.

Required; junior year; second or third term; 3 credits; 3 lectures.

J. F. Brumbaugh

Psy 433. **The Child Mind.** Consideration of the physical and mental development of the child in the various stages; aspects and inter-relations, hygienic and moral sides receiving special attention.

Prerequisite: Psy 301. Elective; junior or senior year; second term; 2 credits; 2 lectures.

J. F. Brumbaugh

Psy 473. **Principles of Education.** This course expounds the general problem of education and the merits and demerits of the various theories of education as they have succeeded each other, together with the numerous principles which have sprung from such doctrines and the modern reinterpretations of aims and practices connected therewith.

Elective; junior or senior year; second term; 2 credits; 2 lectures.

J. F. Brumbaugh

Eth 482. **Ethics.** Meaning of our moral conceptions and principles; why they are binding; whence they are derived; a consideration of every-day customs and practices in the light of these principles; study of professional codes.

Elective; junior or senior year; second or third term; 3 credits; 3 lectures.

J. F. Brumbaugh

THE SERVICE DEPARTMENTS

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.
M. ELLWOOD SMITH, Ph.D., Dean of the Service Departments; Director
of the Summer Session.
VERA FUNK, B.S. Secretary to the Dean.

Art and Rural Architecture

FARLEY DOTY McLOUTH, B.S., Professor of Art and Rural Architecture.
FREDERICK HENRY BERNS, Instructor in Art.
MARJORIE BALTZEL, Instructor in Art.

Bacteriology

GEOFFREY VERNON COPSON, M.S., Professor of Bacteriology; Chief in
Bacteriology, Experiment Station.
WILLIAM VERNAL HALVERSON, M.S., Assistant Professor of Bac-
teriology.
JOSEPH ELLSWORTH SIMMONS, M.S., Assistant Professor of Bac-
teriology.
LESLIE CLINTON WHITAKER, B.S., Instructor in Bacteriology.

Botany

HOWARD PHILLIPS BARSS, A.B., S.M., Professor of Botany and Plant
Pathology; Chief in Botany and Plant Pathology, Experiment
Station.
WINFRED MCKENZIE ATWOOD, Ph.D., Associate Professor of Plant
Physiology; Associate Plant Physiologist, Experiment Station.
WILLIAM EVANS LAWRENCE, B.S., Associate Professor of Plant
Ecology; Associate Plant Ecologist, Experiment Station.
CHARLES ELMER OWENS, A.M., Associate Professor of Plant Pathology.
HELEN MARGARET GILKEY, Ph.D., Assistant Professor of Botany;
Curator of the Herbarium.
JOSEPH WARREN SEVERY, A.B., Instructor in Botany.
GEOFFREY RICHARD HOERNER, M.S., Instructor in Botany.
MARGARET STASON, M.S., Instructor in Botany.
ELSA OTTILIA HORN, B.S., Instructor in Botany.
CHARLES EDGAR RANDALL, A.B., Teaching Fellow in Botany.

Chemistry

JOHN FULTON, M.S., Professor of Chemistry; Director of Chemical
Laboratories.
LOUIS SHERMAN DAVIS, Ph.D., Professor of Chemistry.

FRANCIS HENRY THURBER, M.A., Assistant Professor of Organic Chemistry.

THOMAS WATSON, M.A., A.I.C., Assistant Professor of Organic and Food Chemistry.

EARL GILBERT, M.S., Instructor in Chemistry.

HAROLD RUSSELL KELLY, B.S., Instructor in Agricultural Chemistry.

VALDA EVELINE SMITH, A.B., Instructor in Chemistry.

JOSEPH PARKE MEHLIG, M.S., Instructor in Quantitative Chemistry.

OSMAN HORACE CADY, M.S., Instructor in Chemistry.

HENRY IRVING WEITZEL, M.S., Instructor in Chemistry.

ABRAHAM SCHWARTZ, B.S., Instructor in Chemistry.

REX LOTHROP, B.E., Instructor in Chemistry.

English

FREDERICK BERCHTOLD, A.M., Professor of English Language and Literature.

IDA BURNETT CALLAHAN, B.S., Associate Professor of English.

GEORGE FRANCIS RICHARDSON, Ph.D., Associate Professor of English.

LOREN BURTON BALDWIN, A.M., Assistant Professor of English.

SIGURD HARLAN PETERSON, A.B., Assistant Professor of English.

GERTRUDE EWING McELFRESH, A.B., Instructor in English.

MACKINLEY HELM, A.B., Instructor in English.

CLAUDE MILTON NEWLIN, A.B., Instructor in English.

CARL NAETHER, A.B., Instructor in English.

HORACE WILLISTON, JR., A.B., Instructor in English.

Entomology

LESTER LOVETT, B.S., Professor of Entomology; Chief in Entomology, Experiment Station.

FRANK HEIDTMAN LATHROP, M.S., Associate Professor of Entomology.

WILLARD JOSEPH CHAMBERLIN, B.S., Assistant Professor of Entomology; Forest Entomologist.

HERMAN AUSTIN SCULLEN, A.B., Instructor in Entomology; Specialist in Bee Culture.

History

JOHN B. HORNER, A.M., Litt.D., Professor of History.

WILLIAM HENRY ELLISON, Ph.D., Associate Professor of History.

Mathematics

CHARLES LESLIE JOHNSON, B.S., Professor of Mathematics.

EDWARD BENJAMIN BEATY, B.S., A.M., Associate Professor of Mathematics.

FREDERICK CHARLES KENT, A.B., Associate Professor of Mathematics.
NICHOLAS TARTAR, B.S., Assistant Professor of Mathematics.
HARRY LYNDEN BEARD, B.S., Assistant Professor of Mathematics.
JOHN ALBERT VAN GROOS, M.S., Instructor in Mathematics.
ALBERT RUSSELL WAPPLE, M.A., Instructor in Mathematics.
CHARLES WESLEY VANDEWALKER, A.B., Instructor in Mathematics.
GEORGE ALFRED WILLIAMS, A.B., Instructor in Mathematics.
VIOLA RUTH DINGER, Instructor in Mathematics.
MAIME MARTENS, B.S., Instructor in Mathematics.

Modern Languages

LOUIS BACH, A.M., Professor of Modern Languages.
MELISSA MARGARET MARTIN, A.B., B.S., Instructor in Modern Languages.
ETHEL TAYLOR, A.B., Instructor in Modern Languages.

Physics

WILLIBALD WENIGER, Ph.D., Professor of Physics.
WILLIAM BALLANTYNE ANDERSON, Ph.D., Professor of Physics.
ROBERT UPHOFF, A.B., Instructor in Physics.
ALBERT WASHINGTON MARKER, A.M., Instructor in Physics.
JOSEPH JORDAN, A.M., Instructor in Physics.
FRED BUCKNER MORGAN, A.B., B.S., Instructor in Physics.
CHARLOTTE SKINNER TAYLOR, A.B., Instructor in Physics.
HARRY DRILL, A.B., Instructor in Physics.

Public Speaking

CHARLES BUREN MITCHELL, A.M., Professor of Public Speaking.
GEORGE REUBEN VARNEY, A.B., D.D., Assistant Professor of Public Speaking.
NORMA OLSON, Instructor in Expression and Dramatics.

Zoology and Physiology

NATHAN FASTEN, Ph.D., Professor of Zoology and Physiology.
GEORGE FRANCIS SYKES, A.M., Professor of Zoology and Physiology.
HOWARD MARSHALL WIGHT, M.S., Assistant Professor of Zoology and Physiology.
JAMES OWEN FOLEY, B.S., Fellow in Zoology and Physiology.
PENNOYER FRANCIS ENGLISH, B.S., Fellow in Zoology.

For administrative purposes the following departments, offering courses nontechnical in character and required or elected by students in several or all of the technical schools, are organized under the direction of the Dean of the Service Departments. The scope and facilities of the work in Art and Rural Architecture, Bacteriology, Botany and Plant Pathology, Chemistry, English Language and Literature, Entomology, History, Mathematics, Modern Languages, Physics, Public Speaking, and Zoology and Physiology, are discussed under the respective departmental headings.

NUMBERING AND ARRANGEMENT OF DESCRIPTIONS OF COURSES IN THIS CATALOGUE

Courses in degree curricula are designated by numbers of three digits in which the left-hand digit represents usually the year (as first, second, third, etc.) in which the course is normally pursued; the middle digit represents the group of related courses in the department to which the course belongs; and the right-hand digit represents the sequence of courses in cases where courses normally follow each other in succeeding terms. Courses in vocational curricula are numbered with two digits, the first generally representing the year in which the course is pursued, the second the sequence of the course.

Under each department descriptions of vocational courses are printed immediately after the descriptions of collegiate courses.

ART AND RURAL ARCHITECTURE

Art. The department of Art and Rural Architecture offers no regular courses in Art with the idea of instruction in the fine arts alone, but rather as art education relates to the highest ideals in everyday life, and meets the requirements of the industries, dress, and the home. Courses in drawing, composition, design, and color are offered for the purpose of facilitating instruction in the applied arts courses in design, metal work, clay modeling, and the ceramic arts, and in the work of such other departments as Landscape Gardening, Household Art, and Industrial Arts. The courses offered not only develop utilitarian ideas, but they also cultivate an appreciation of the beautiful in nature and art.

Rural Architecture. The courses in Architecture are offered primarily to students in Agriculture, Home Economics, and Engineering. All students, however, who are interested in domestic or rural architecture, may elect courses which they are prepared to take. The work is especially adapted to meet the utilitarian requirements of the various departments and to serve these departments in an able manner. The courses consist of problems in the design and construction of buildings and a consideration of building materials.

Equipment. The department occupies commodious, well-lighted studios on the fourth floor of Agricultural Hall and the first floor of the Library Building, a metal-working laboratory, and a clay-modeling and pottery studio in the Mines Building. The studios have north light, are well heated and ventilated, and are equipped with studio and laboratory accessories, such as casts, still life, prints, and tools. The department is also well supplied with wall drawings, pictures, and portfolios illustrating the different phases of the work.

The College Library has a carefully selected and growing reserve in art and architecture, covering all branches of these subjects.

COURSES

ART

A 110. **Drawing and Composition.** Free-hand drawing of still life, decorative textiles and costumes, developing the principles of representation in line and light and shade, by use of pencil, charcoal, and brush and ink. Two hours outside reading required.

Required in Home Economics; freshman year; first term; 4 credits; 1 lecture; 3 two-hour studio periods. Fee \$0.50.

F. H. Berns, Marjorie Baltzel

A 120. **Design.** The elements of design construction and their application to problems of dress and home decoration are made the basis of this course. A note-book is required of each student. Two hours outside reading required.

Prerequisite: A 110 or equivalent. Required in Home Economics; freshman year; second term; 3 credits; 1 lecture; 4 two-hour studio periods. Fee \$0.50. *F. H. Berns, Marjorie Baltzel*

A 130. **Color Harmony.** This course covers the study of the so-called primary colors, the development of the prismatic colors with their complements, color quality, color values, and the various harmonies. Problems are rendered in original color harmonies, and in the use of nature color and color prints. These problems are an application of appropriate color schemes as applied to articles of household use, dress, and home interiors. Two hours outside reading required.

Prerequisites: A 110, 120, or equivalent. Required in Home Economics; freshman year; third term; 4 credits; 1 lecture; 3 two-hour studio periods. Fee \$0.50.

F. D. McLouth, F. H. Berns, Marjorie Baltzel

A 211. **Industrial Arts Drawing.** Free-hand perspective and free-hand drawing of furniture and other articles, machine parts, and drawing from written descriptions.

Required in Industrial Arts; sophomore year; first term; 2 credits; 3 two-hour studio periods. Fee \$0.50. *F. D. McLouth*

A 221. **Industrial Arts Design.** A course in the principles of design suited to the Industrial Arts Curriculum. Original design plates for door and cabinet paneling, metal parts, hinges, escutcheons, draw pulls, etc., and furniture.

Prerequisite: A 211. Required in Industrial Arts; sophomore year; second term; 2 credits; 3 two-hour studio periods. Fee \$0.50.

F. D. McLouth

A 241. **Applied Design and Color.** An elective offered to give broader working knowledge of design principles which may serve as a guide to selection and adaptation for practical application in the home. Problems in design and execution are required.

Prerequisites: A 110, 120, and 130. Elective; second term; 2 credits; 3 two-hour studio periods. Fee \$0.50. *F. D. McLouth*

A 242. **Applied Design and Color.** A continuation of A 241.

Prerequisite: A 241. Elective; second or third term; 2 credits; 3 two-hour studio periods. Fee \$0.50. *F. D. McLouth*

A 251. Pencil and Pen Rendering. Pencil and pen technique; use of the pencil and pen in the expression of landscape gardening subjects; sketching; pencil drawing as used under washes; studio and out-of-doors work.

Required in Landscape Gardening; sophomore year; third term; 2 credits; 3 two-hour periods. Fee \$0.50 *F. D. McLouth*

A 331. Water Color. The courses in water color are offered as electives and are open to any students who have completed courses A 110, 120, and 130, or their equivalent. The work of the first term includes simple flat washes of geometric casts and flat color washes of still-life subjects.

Elective; sophomore, junior, or senior year; any term; 2 credits; 3 two-hour studio periods. Fee \$0.50. *F. D. McLouth*

A 332. Water Color. A continuation of A 331, taking up more complex still-life subjects, posters, and landscape.

Prerequisite: A 331. Elective; sophomore, junior, or senior year; any term; 2 credits; 3 two-hour studio periods. Fee \$0.50.

F. D. McLouth

A 333. Design and Color Use. The purpose of the course is to combine the use of design and color in more advanced problems of every-day application. Six problems are required and a note-book covering lectures and assigned reading. Two hours outside reading required.

Prerequisites: A 110, 120, 130, or equivalent. Required in Home Economics; junior year; first term; 3 credits; 1 lecture; 3 two-hour studio periods. Fee \$0.50. *F. D. McLouth, F. H. Berns*

A 341. Clay Modeling and Pottery. Preparation of clay; designing and modeling of vases and bowls; application of original designs in incising and piercing; glazing and firing of kiln.

Prerequisites: A 110, 120, 130, or equivalent. Elective; sophomore, junior, or senior year; 2 credits; 3 two-hour studio periods. Fee \$1.00. *Marjorie Baltzel*

A 342. Clay Modeling and Pottery. Introduction of handles, feet, and modeled decoration.

Prerequisites: A 110, 120, 130 (or equivalent), A 341. Elective; sophomore, junior, or senior year; 2 credits; 3 two-hour studio periods. Fee \$1.00. *Marjori Baltzel*

A 343. Clay Modeling and Pottery. Application of principles previously studied to advanced problems; introduction of Japanese methods.

Prerequisites: A 110, 120, 130 (or equivalent), 341, 342. Elective; sophomore, junior, or senior year; 2 credits; 3 two-hour studio periods. Fee \$1.00. *Marjorie Baltzel*

A 441, 442, 443. **Jewelry Making.** The work of the first term consists of sawing, soldering, chain-making, and stone-setting. In the second term problems in wire and the use of the graver are included. In the third term carving and the various methods of stone setting are studied in connection with advanced work.

Prerequisite: A 120 or equivalent. Elective; three terms; 2 credits each term; 6 hours a week. Fee \$1.00 each term. Deposit \$2.00 each term.

Marjorie Baltzel

* RURAL ARCHITECTURE

Note: All hours are laboratory or drafting-room periods.

Ar 212. **Perspective Drawing.** Study of the representation of buildings and ground by means of mechanical perspective.

Elective; second term; 1 credit; 3 hours a week. Fee \$0.50.

Ar 213. **Dairy Buildings.** Study of dairy barns, silos, etc., by drawing plans.

Elective; third term; 2 credits; 6 hours a week. Fee \$0.50.

Ar 311, 312, 313. **Landscape Drawing.** Study of the presentation of drawings used by landscape architects and gardeners.

Required in Landscape Gardening; junior year; three terms; 3 credits each term; 9 hours a week. Fee \$1.00 each term.

Ar 317, 318, 319. **Horticultural Products Buildings.** Study of evaporators, store houses, and other structures by drawing plans and inspecting buildings.

Required in Horticultural Products; senior year; three terms; 1 credit each term; 3 hours a week. Fee \$0.50.

Ar 320. **Domestic Architecture.** Study of house arrangement (for women students).

Elective; junior year; any term; 2 credits; 6 hours a week. Fee \$0.75. Text: Robinson, Domestic Architecture.

Ar 331, 332, 333. **House Planning.** Study of architecture by working drawings of houses.

Elective; junior year; three terms; 3 credits each term; 9 hours a week. Fee \$1.00 first term; \$0.50 second and third terms. Text: Robinson, Domestic Architecture.

* Except by special arrangement courses in Rural Architecture will not be offered during 1921-22.

BACTERIOLOGY

Bacteriology has become fundamental to such sciences as Agriculture, Pharmacy, and Home Economics and is a necessary part of the training of every man or woman who is seeking a true education. The courses in Bacteriology are adapted to meet both technical and cultural needs of the students. In the sophomore year the work is general and fundamental in nature, and practically the same for all students; but in the later courses it becomes more specialized, following some definite branch of the science. So complex has the study of Bacteriology become that the attempt is no longer made to master the whole field but only one or two of the main branches of the subject, such as Soil Bacteriology, Dairy Bacteriology, Pathogenic Bacteriology, and others.

During the junior and senior years, opportunity for advanced work is given to students who have had proper preliminary training and who show a natural aptitude towards the work. Students in Agriculture may elect Bacteriology as a minor, and receive the necessary fundamental training for positions in Agricultural Bacteriology in colleges, experiment stations, civil service, dairy and food inspection, etc.; while students in the Pharmacy and pre-medical curricula may elect advanced work in Medical Bacteriology, Sanitation, and Public Health work. Graduate students in Dairy Husbandry, Soils, Horticultural Products, Pharmacy, or Home Economics, may elect Bacteriology as a minor with the approval of their major professor and the head of the department of Bacteriology.

Proper understanding of Bacteriology necessitates a fair knowledge of General Chemistry, which is therefore made a prerequisite of the courses in Bacteriology. Before a student can progress very far in the work, a knowledge of Qualitative, Organic, and Agricultural Chemistry is necessary, but these subjects will have been taken by students in the degree curricula by the time they are required for their bacteriological work.

Equipment. The department of Bacteriology is located on the fourth floor of Agricultural Hall. The department has well equipped laboratories for resident study and Experiment Station work, with dark room, storeroom, large incubator room for student use, and a departmental library containing the latest authentic texts on bacteriology. The general library has all the available American and foreign bacteriological periodicals of recognized merit. The department is well supplied with the highest grade microscopes, glassware and other equipment for general and advanced work.

COLLEGIATE COURSES

Bac 201. **General Bacteriology (Agricultural).** A series of lectures, recitations, and laboratory experiments to familiarize students with the fundamental principles of Bacteriology as applied to Agriculture.

Prerequisite: One year of Chemistry. Required in Agriculture; sophomore year; any term; 4 credits; 2 lectures; 3 two-hour laboratory periods. Fee \$5.00. Text: Russell and Hastings, Agricultural Bacteriology.

Bac 202. **General Bacteriology.** A continuation of Bac 201. Lectures and laboratory work devoted to applied Agricultural Bacteriology and a more thorough knowledge of the principles of Bacteriology.

Prerequisite: Bac 201. Elective in Agriculture; sophomore year; second term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$4.00. Text: Marshall, Microbiology.

Bac 204. **General Bacteriology.** A series of lectures, recitations, and laboratory experiments to familiarize students with the fundamental principles of Bacteriology.

Prerequisite: One year of Chemistry. Required in Home Economics (sophomore year), and in Pharmacy (junior year); first or second term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$4.00. Text: Buchanan, Household Bacteriology.

Bac 205. **General Bacteriology.** A continuation of Bac 204. A course adapted primarily to students of Home Economics. Bacteriology of food preservation, principles of sanitation, bacteriological studies of water, milk, and foods of all kinds; common infectious diseases; disinfection; germicides; and preservatives.

Prerequisite: Bac 204 or 201. Required in Home Economics; sophomore year; second or third term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$4.00. Text: Buchanan, Household Bacteriology.

Bac 301, 302, 303. **Advanced Bacteriology.** Beginning with the first term of the junior year, students in Agriculture and Pharmacy may elect Bacteriology as a minor and continue throughout the rest of their college course.

Prerequisite: Bac 202. Elective; junior year; three terms; 4 credits each term; 3 two-hour laboratory periods; 2 lectures. Fee \$5.00 each term.

Bac 311. **Dairy Bacteriology.** Application of Bacteriology to dairy practices; physiological activities of bacteria underlying bacterial analysis of dairy products; dairy sanitation; bacteriology of diseases of dairy cattle.

Prerequisite: Bac 201. Required in Dairy Husbandry; junior or senior year; first term; 4 credits; 2 lectures; 3 two-hour laboratory periods. Fee \$5.00.

Bac 312. **Dairy Bacteriology.** A continuation of Bac 311. A more thorough study of specific problems in Dairy Bacteriology and practice in special technique, adapted to particular needs of individual students as far as possible, and planned to train students as bacteriologists for creameries and market milk plants.

Prerequisites: Bac 201, 311. Elective in Agriculture; junior or senior year; second term; 3 credits; 1 lecture; 3 two-hour laboratory periods. Fee \$5.00.

Bac 321. **Soil Bacteriology.** A study of micro-organisms of the soil and their relation to soil fertility; biochemistry of the decomposition of humus; nitrogen-fixation; ammonification, etc.; relation of bacteria to soil fertility and study of the soil as a medium for bacteriological growth.

Prerequisite: Bac 201. Elective in Agriculture; senior year; first term; 4 credits; 2 lectures; 3 two-hour laboratory periods. Fee \$5.00.

Bac 322. **Soil Bacteriology.** A continuation of Bac 321. A more thorough study in soil of different farm practices. Review of literature on Soil Bacteriology.

Prerequisite: Bac 321. Elective in Agriculture; senior year; second term; 3 credits; 1 lecture; 3 two-hour laboratory periods. Fee \$4.00.

Bac 332. **Pharmacy Bacteriology.** Continuation of Bac 204. Lectures and laboratory work devoted to principles of Bacteriology and study of Pathogenic Bacteriology.

Prerequisite: Bac 201 or 204. Required in Pharmacy; junior year; second term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$4.00. Text: Park and Williams, Pathogenic Micro-organisms.

Bac 333. **Immunity and Serum Therapy.** A study of the theory of immunity and its application to serum therapy; preparation of toxins, antitoxins, vaccines, etc.; study of normal and pathological blood.

Prerequisites: Bac 201, 332. Required in Pharmacy; junior year; third term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$4.00. Text: Park and Williams, Pathogenic Micro-organisms.

Bac 441. **Zymology and Fermentations.** An elective for students in Horticultural Products. This course is planned to train the student to meet the bacteriological problems in food preservation such as the isolation, identification, and control of micro-organisms causing spoilage of fruits, vegetables, and other foodstuffs; the bacteriology of curing, ripening, and preserving food products.

Prerequisite: Bac 202 or 204. Elective in Agriculture; senior year; second term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$4.00.

Bac 401, 402, 403. **Advanced Bacteriology.** A continuation of Bac 303 comprising further training in the principles and technique of Bacteriology besides directing the study along one of the main lines of Bacteriology.

Prerequisite: Bac 303. Elective; senior year; three terms; 4 credits each term; 3 two-hour laboratory periods; 2 lectures. Fee \$5.00 each term.

Bac 480. **Seminar.** A discussion of the current literature on bacteriological topics.

Elective in Agriculture; senior year; any term; 1 credit; 1 hour.

Bac 691, 692, 693. **Research in Bacteriology.** Work for the master's degree, either as a minor or major in the department, may be selected and continued with the assistance and cooperation of the instructional staff of the department.

Prerequisite: Two years in Bacteriology. Credits and hours to be arranged. Fee \$2.00 a credit.

VOCATIONAL COURSE

Bac 11. **Vocational Dairy Bacteriology.** An elementary study of the bacterial factors in dairy production. Effect of pasteurization, cooling, straining; study of general sanitation, cleanliness of dairy, etc.

Required in Dairy Manufactures Short Course; second term; 1 credit; 1 lecture; 1 two-hour laboratory period. Fee \$2.00.

BOTANY AND PLANT PATHOLOGY

The courses offered in the department aim not only to give the student a knowledge of plants, their external and internal structure, their vital activities, their relations to their environment, and their natural classification; but also to impart such fundamental and practical information in regard to plants as will form a strong foundation for the technical work in Agriculture, Forestry, Pharmacy, and Home Economics.

Exceptional opportunities are afforded students who desire to specialize in Botany and Plant Pathology to prepare for the teaching of Botany and Agriculture in secondary schools and to secure a general foundation for advanced study and research in Horticulture, Agriculture, Forestry, and other fields. Special attention is given to those who wish to take up investigational work in agricultural experiment stations or in the United States Department of Agriculture under the civil service. Training in Botany and Plant Pathology is a most valuable asset to agricultural extension workers, horticultural inspectors, district agriculturists, seed analysts, and pure-food experts.

Equipment. The department of Botany and Plant Pathology is quartered on the second floor of Agricultural Hall. The three general student laboratories are equipped with compound microscopes for each student and with special artificial illumination for microscopic work. The laboratories for special studies in Plant Pathology, Plant Physiology, Plant Ecology, and Plant Histology are provided with all the equipment required for ordinary courses and in addition special instruments and technical apparatus are available for advanced work. The herbarium contains several thousand specimens of native and introduced plants including cultivated forms, weeds, poisonous plants, drug plants, and other plants of economic importance. A battery of electrical driers is provided for collected material. Several thousand specimens of fungi, mostly parasitic forms, are comprised in the mycological collection. Physiologic dark rooms, photographic dark rooms, greenhouse space, and culture and sterilizing rooms for work with parasitic organisms are available. The departmental library contains excellent sets of reference works and bulletins, and receives the current issues of practically all of the more important botanical periodicals published in America and foreign countries.

Courses for Students Majoring in Botany and Plant Pathology. Students desiring to pursue special training in Botany and Plant

Pathology are expected to take the usual work required in the freshman and sophomore years of the curricula in Agriculture or Home Economics. In the junior and senior years, besides the courses or options required of all students in these schools, special courses in Botany and Plant Pathology and related subjects are prescribed by the department of Botany and Plant Pathology. Students may obtain information from the head of the department regarding these requirements.

Graduate Courses. Advanced work in various lines of Botany may be taken by graduate students as major or minor subjects and registered for under Bot 691, 692, 693.

Grazing Assistant Positions. The United States Forest Service offers abundant opportunity for properly prepared college students to enter grazing assistant positions in the national forests. Students desiring to prepare for these positions should consult this department for complete information as to requirements. The following Botany courses should be taken: Bot 101, 102, 321, 204, 341, 442. In addition, work should be taken in Animal Husbandry, Chemistry, Forestry (For 111, 112), and English (Eng 201).

COLLEGIATE COURSES

Bot 101, 102. **General Botany.** A two-term sequence taking up a study of higher plants as living things faced with problems of existence; their fundamental structure; life-histories; physiology; relation to soil, air moisture, temperature, etc.; extent and constitution of the vegetable kingdom as a whole; forms causing plant diseases or producing decay; main characteristics of the principal families of agricultural plants.

Required in Agriculture; freshman year; first and second terms; 4 credits each term; 1 lecture; 1 recitation; 3 two-hour laboratory periods. Fee \$2.00 each term. Deposit \$1.00 each term. Text: Martin, Botany with Agricultural Applications.

W. E. Lawrence, J. W. Severy, G. R. Hoerner

Bot 107, 108, 109. **Pharmaceutic Botany.** A three-term sequence preparatory to Pharmacognosy and Materia Medica and concentrated upon the study of various plant tissues, identification of drug plants, study of crude and powdered drugs and their identification.

Required in Pharmacy; freshman year; three terms; 3 credits each term; 1 lecture; 1 recitation; 2 two-hour laboratory periods. Fee \$1.50 each term. Deposit \$1.00. Text: Martin, Botany.

Helen M. Gilkey

Bot 202. **Principles of Botany, Part I: The Plant Kingdom.** A study of representative members of the different groups of plants

from lowest to highest comparing their structure and reproductive methods and their position in the scale of plant evolution.

Elective; first term; 3 credits; 1 lecture, 1 recitation; 2 two-hour laboratory periods. Fee \$1.50. Deposit \$1.00. Text: Densmore, *General Botany*.
Helen M. Gilkey

Bot 203. Principles of Botany, Part II: The Seed Plants. A study of the structure and vital activities of higher plants and their relation to their environment.

Required in Home Economics; elective for others; sophomore year; any term; 3 credits; 1 lecture; 1 recitation; 2 two-hour laboratory periods. Fee \$1.50. Deposit \$1.00. Text: Martin, *Botany*.

Helen M. Gilkey

Bot 204. Classification of Plants. A study of the families of higher plants and the identification of weeds, ornamentals, crop plants, etc., as students may elect; field trips for collecting specimens and recording data, and laboratory analysis of material thus collected; practice in drying and mounting plant specimens.

Prerequisite: An elementary course on seed plants. Elective; third term; 3 or more credits; 1 recitation; 2 three-hour laboratory periods or field trips. (Additional periods for additional credit.) Fee \$0.50 each credit. Text: Piper and Beattie, *Flora of the Northwest Coast*.

Helen M. Gilkey

Bot 311. Principles of Plant Pathology. Causes, symptoms, effects, and means of dissemination of disease in plants; principles of plant disease control; laboratory work with various types of plant diseases and the different groups of plant parasites.

Prerequisites: Bot 101 and 102, or their equivalent. Required in Agriculture (plant group); junior year; second term; 4 credits; 2 recitations; 3 two-hour laboratory periods. Fee \$2.00. Deposit \$1.00. Text: Duggar, *Fungous Diseases of Plants*.

C. E. Owens

Bot 312. Fruit Diseases. Causes, symptoms, progress, and control of the important fungous, bacterial, and physiological diseases of orchard trees and small fruits, with emphasis on those of importance in the Pacific Northwest. Studies in the laboratory are supplemented by field excursions.

Prerequisite: Bot 311. Required in Pomology; junior year; third term; 3 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$1.50. Deposit \$1.00. Text: Hesler and Whetzel, *Manual of Fruit Diseases*.

C. E. Owens

Bot 313. Diseases of Field Crops and Vegetables. Similar to Bot 411, but dealing with diseases of field crops and truck and garden vegetables.

Prerequisite: Bot 311. Required in Plant Pathology; junior year; third term; 3 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$1.50. Deposit \$1.00. *C. E. Owens*

Bot 321. Plant Physiology. A study of the life processes and vital requirements of the plant as a basis for intelligent agricultural and horticultural practice; physiology of the living plant; response made by the plant to the influences surrounding it; laboratory experiments.

Prerequisites: Bot 101 and 102, or their equivalent, and Qualitative, Quantitative, and Organic Chemistry. Required in Agriculture (plant group); junior year; third term; 4 credits; 1 lecture; 1 recitation; 3 two-hour laboratory periods. Fee \$4.00. Deposit \$2.00. Text: Duggar, Plant Physiology. *W. M. Atwood*

Bot 341. Range and Pasture Botany. A study of the edible, nonedible, and poisonous plants of the range and pasture, their characteristics, life-histories, methods of reproduction, conditions for growth, their distribution and ecological factors affecting them; relation of grazing to the maintenance of ranges and pastures; methods of preventing stock poisoning or of eradicating poisonous plants. Of interest to students in Animal Husbandry and Dairy Production, and to students in Forestry. Students may register for one additional credit, taking one additional two-hour laboratory period.

Prerequisites: Bot 101 and 102, or equivalent. Elective; second term; 2 credits; 1 recitation; 1 two-hour laboratory period. Fee \$0.50 each credit. Text: Frye and Rigg, Elementary Flora of the Northwest. *W. E. Lawrence*

Bot 413. Forest Pathology. The parasitic and saprophytic fungi which attack forest trees and destroy structural timber; their effects upon the wood; preventive measures.

Prerequisites: Bot 101 and 102, or their equivalent. Elective; junior or senior year; first term; 2 credits; 1 recitation; 1 two-hour laboratory period. Fee \$1.00. Deposit \$1.00. *C. E. Owens*

Bot 414. Mycology. A study of the different groups of fungi with special attention to parasitic forms, dealing with structure, life-history and classification. An advanced course.

Prerequisites: Bot 101 and 102, or their equivalent. Elective; senior year; second term; 4 credits; 2 recitations; 3 two-hour laboratory periods. Fee \$2.00. Deposit \$1.00. Text: Harshberger, Mycology. *H. P. Barss*

Bot 415. Plant Pathological Technique. A training course in the technical methods employed in plant pathological investigations; isolation, cultivation, and inoculation of parasitic organisms; record

keeping; care of collections; photographic methods, etc. For advanced students. Not given in 1921-22.

Prerequisite: Bot 311. Elective; senior year; third term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$2.50. Deposit \$2.00. Text: Harshberger, Mycology. *H. P. Barss*

Bot 441. **Comparative Morphology and Evolution of Plants.** An advanced course aiming to show the tendencies and causes which impel or control evolution within the plant kingdom and designed to broaden the student's knowledge of the different groups of plants by comparison of the organic structure, life-histories, cytological development, and reproductive processes of representative forms. Basic to work in Genetics, Plant Breeding, and advanced biologic study. Offered in alternate years. Offered in 1921-22.

Prerequisites: Bot 101 and 102, or their equivalent. Elective for advanced students; first term; 4 credits; 1 lecture; 1 recitation; 3 two-hour laboratory periods. Fee \$2.00. Deposit \$2.00. Text: Coulter et al., A Text-Book of Botany, Vol. I, Part 1. Coulter, Evolution of Sex in Plants. *W. E. Lawrence*

Bot 442. **Plant Ecology.** A study of the effects on living plants of external influences such as climate, soil, physiography, etc., under natural conditions or under conditions modified by agriculture; native vegetation as an indicator of agricultural possibilities. Of special value to students of Agriculture, Forestry, Grazing, Agricultural Economics, Irrigation and Drainage, Plant Introduction, Geology, and Botany, and any expecting to enter State or Federal field service.

Prerequisites: Bot 101 and 102, or their equivalent. Elective; third term; 3 credits; 1 lecture; 1 recitation; 1 three-hour laboratory period. Fee \$1.50. *W. E. Lawrence*

Bot 443. **Plant Histology.** An advanced course dealing with the structure, inclusions, activities, and methods of division of the plant cell; development, structure, and relation to function of various types of plant tissues; training on the technique of making temporary and permanent microscopic mounts, including sectioning, staining, etc. Offered in alternate years. Will not be offered in 1921-22.

Prerequisites: Bot 101 and 102, or their equivalent. Elective; first term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$3.00. Deposit \$2.00. Text: Stevens, Plant Anatomy. *C. E. Owens*

Bot 444. **Advanced Study and Thesis.** For students specializing in Botany and Plant Pathology. Investigation of special problems or advanced studies not included in regular courses.

Elective; junior or senior year; any term; credit, hours of work, etc., to be arranged with major professor.

Bot 481, 482, 483. **Seminar.** The seminar is attended and contributed to by advanced students and instructional staff in the department of Botany and Plant Pathology and consists of reports on advanced botanical studies, extracts of articles along botanical lines appearing in scientific journals and other publications. Students are required to prepare and present papers on assigned topics.

Required in Botany; senior year; three terms; 1 credit each term; 1 hour a week.

Bot 691, 692, 693. **Graduate Study and Thesis.** Graduate students may register under these numbers for special studies and investigations of graduate grade in any line of work included within the scope of the department of Botany and Plant Pathology. Thesis work for the master's degree is taken up under these numbers.

Elective for graduate students; any term; credits, hours, prerequisites, etc., are arranged by the instructor in charge of the major line of work pursued, subject to the approval of the head of the department.

VOCATIONAL COURSE

Bot 11. **Plants and Plant Diseases.** Elementary study of the structure and life activities of plants; causes, effects, symptoms, and methods of control of some of the common and destructive diseases of field crops, fruits, and vegetables.

Required in Vocational Curriculum in Agriculture; first term; 3 credits; 1 lecture; 1 recitation; 2 two-hour laboratory periods. Fee \$1.50. Deposit \$1.00. Text: Transeau, Science of Plant Life.

C. E. Owens

CHEMISTRY

The foundation courses in General Chemistry consist in familiarizing the student with the more important underlying principles of the science and the fundamentals of laboratory technique. These principles are devolved and illustrated largely through a study of the descriptive chemistry of the non-metallic and metallic elements, including appropriate means for identifying each.

The courses in Analytical Chemistry consist of (a) Qualitative Analysis, by means of which the student is enabled to classify, separate, and identify the components of mixtures and constituents of compounds; (b) Quantitative Analysis, in which he determines the actual quantity of those components and constituents which he has previously learned to separate and identify.

A study of the principles of Organic Chemistry and their applications in the laboratory follows the foregoing courses.

Having completed these, the student is now fairly well prepared to begin specialization in the field of chemistry. The following lines of specialization are suggested:

(1) Agricultural Chemistry. Study and analysis of soils, feeds, fertilizers, dairy and horticultural products; animal nutrition and general experiment station work.

(2) Inorganic Chemistry and Analysis. Study and analysis of minerals, ores, alloys, and the products of metallurgical and other inorganic chemical industries, including advanced inorganic chemistry and a study of the rarer elements and their technical application.

(3) Pharmaceutical and Physiological Chemistry. Study of the chemical processes more intimately associated with foods, drugs, pharmaceutical products, and the products of the human economy, including comprehensive analytical methods, and advanced organic synthesis.

(4) Chemical Engineering. Preparation for the field of industrial chemical technology.

Equipment. The department of Chemistry occupies nearly the whole of Science Hall, excepting the fourth floor which is occupied at present by the School of Pharmacy, and four rooms used by the Experiment Station department of Agricultural Chemistry.

The first floor contains the main general laboratory, the stock room, and the organic laboratory. The general laboratory, designed for practical work in modern chemistry, is well lighted and commodious, with accommodations for eighty students at one time. The general laboratory and the organic laboratory are both contiguous

to the stock-room. The organic laboratory accommodates ninety-six students daily. These laboratories are equipped with the necessary apparatus. The laboratory used for Quantitative Analysis is on the second floor. The equipment of this laboratory is adequate to give training in the quantitative methods of chemistry and in most of the analytical work required in the laboratories of modern commercial establishments. The School of Agriculture demands in its students skill in analytical methods, and classes giving this training fill the main quantitative laboratory during the greater part of the day.

COLLEGIATE COURSES

Ch 101, 102, 103. **General Chemistry.** (1) Fundamental principles and their application; the non-metallic elements and their compounds; laboratory work in the identification of anions. A two-week introductory course in elementary physical concepts precedes the regular work. (2) Metallic elements and their compounds; introductory study of chemical equilibrium; theory of solution; law of mass-action and the periodic law. The laboratory work completes anion classification and identification, and includes study of the reactions of the cations and their identification. Note: Students who have had one year of Chemistry in a standard high school may be permitted to take an examination for credit in Ch 101 and 102 provided their high school credits in Chemistry are not used as entrance units. This examination will be held one week after the opening of the first term. Laboratory note-books must be presented. (3) Metallic elements and their compounds; elementary study of the principles of qualitative analysis; further extension and application of the principles of chemical equilibrium; the law of mass-action; theory of solution; the periodic law; laboratory work in elementary qualitative analysis and, in addition, a few typical exercises in gravimetric and volumetric analysis, including acidimetry and alkalimetry. Ch 101, 102, 103 form a sequence. Credit given only on completion of all three courses or their equivalents.

Required in Agriculture, Home Economics, and Engineering; freshman year; three terms; 3 credits each term; 1 lecture; 1 recitation; 2 two-hour laboratory periods. Fee \$4.50 each term. Deposit \$2.00 each term.

Ch 104. **General Chemistry.** Fundamental principles and their application; the non-metallic elements and their compounds; the atomic theory; valence; oxidation and reduction reactions studied from the standpoint of the electron theory; introductory study of chemical equilibrium; laboratory work in quantitative applications

of the more important chemical principles, and the reactions and means of identification of the common anions.

Prerequisite: High-school Chemistry and Physics. Required in Chemical Engineering, Mining Engineering, and Pharmacy; freshman year; first term; 5 credits; 1 lecture; 2 recitations; 3 three-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 105. **General Chemistry.** Continuation of Ch 104. Metallic elements and their compounds; extension of the fundamental principles of the preceding course; chemical equilibrium and the law of mass-action considered quantitatively; solubility products; the periodic law; laboratory work in systematic classification and identification of the common ions, together with numerous quantitative exercises illustrative of the more important chemical principles.

Prerequisite: Ch 104 or equivalent. Required in Chemical Engineering, Mining Engineering, and Pharmacy; freshman year; second term; 5 credits; 1 lecture; 2 recitations; 3 three-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 106. **General Chemistry.** Continuation of Ch 105. Metallic elements and their compounds from the standpoint of qualitative analysis; i. e., the classification, separation, and identification of cations. Further development of the principles of the preceding courses; introductory study of complex ions; thermochemistry, electrochemistry, colloid chemistry, and the phase rule.

Prerequisite: Ch 105. Required in Chemical Engineering, Mining Engineering, and Pharmacy; freshman year; third term; 2 credits; 2 recitations.

Ch 111, 112, 113. **Household Chemistry.** A modified course in general chemistry for those students in Home Economics who do not intend to take the full number of courses in Chemistry required in the degree curriculum. Application of the principles of general chemistry with respect to fuels and air, water, cleansing and bleaching agents; qualitative study of proteins, fats, carbohydrates, leavening agents, food adulterants, and textile fibers. Ch 111 and 113 not accepted as prerequisites to Ch 102 and 221 respectively.

Elective in Home Economics; freshman year; three terms; 3 credits each term; 2 recitations; 2 two-hour laboratory periods. Fee \$4.50 each term. Deposit \$2.00 each term.

Ch 131. **Qualitative Analysis.** A laboratory course to accompany Ch 106; cannot be taken separately. The classification, separation, identification of the common ions and cations; dissolving and analysis of solid substances, including salts, alloys, etc.

Prerequisite: Ch 105 or equivalent; must be accompanied by Ch 106. Required in Chemical Engineering, Mining Engineering,

and Pharmacy; freshman year; third term; 3 credits; 3 three-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 221. **Organic Chemistry.** Study of occurrence, methods of preparation, characteristic reactions, and properties of the more common organic compounds; the paraffins, alcohols, aldehydes, ketones, ethers, fatty acids, esters, benzene, phenols, aniline and a few dyes.

Prerequisite: Ch 103. Required in Home Economics; sophomore year; first term; 5 credits; 2 lectures; 2 recitations; 3 two-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 222, 223. **Chemistry of Foods and Digestion.** Nature of the carbohydrates, proteins, fats in common food stuffs; qualitative tests for the same; chemical changes foods undergo in the process of digestion and metabolism.

Prerequisite: Ch 221 or 226. Required in Home Economics; sophomore year; second and third terms; $2\frac{1}{2}$ credits each term; 1 lecture; 1 recitation; 2 two-hour laboratory periods. Fee \$3.75 each term. Deposit \$2.00 each term.

Ch 224. **Organic Chemistry.** A course similar to Ch 221, but dealing also with the carbohydrates, proteins, and other compounds of carbon which are of special importance along agricultural and biochemical lines.

Prerequisites: Ch 103, 247. Required in Agriculture; sophomore year; second term; 5 credits; 2 lectures; 2 recitations; 2 three-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 226, 227. **Organic Chemistry.** A two-term sequence in the chemistry of the carbon compounds; the aliphatics, aromatics, and derivatives, including methods of separation, preparation, identification, properties, and characteristic reactions.

Prerequisites: Ch 106. Required in Pharmacy (sophomore year) and in Chemical Engineering (junior year); first and second terms; 5 credits each term; 2 lectures; 2 recitations; 2 three-hour laboratory periods. Fee \$7.50 each term.

Ch 228. **Chemistry of Fuels.** A course of lectures for Mining and other qualified students. The course deals with the manner of occurrence, winning and fractionation of crude oils; their uses; by-products and their uses; destructive distillation of wood and some of its by-products; destructive distillation of coal and its by-products, including gas, coke, and tar. This course is given to familiarize the student with the products themselves, rather than to present either geological or chemical engineering points of view.

Prerequisite: Ch 104, 105, 106. Required in Mines; sophomore year; third term; 3 credits; 4 lectures.

Ch 231. **Qualitative Analysis.** Advanced course. Review of theory and practice of analytical operations; separation and identification of the components of such substances as ores, minerals, rocks, slags, mattes, alloys, and metallurgical by-products. Some work is given in the identification of the less common metals, and qualitative tests are made with boiler scale and cement.

Prerequisites: Ch 106 and 131, or equivalent. Elective in Mines; sophomore year; first term; 3 credits; 1 lecture or recitation; 2 three-hour laboratory periods. Fee \$4.50. Deposit \$2.00.

Ch 233. **Qualitative Analysis.** Advanced Course. Review of the theory and practice of analytical operations and the application of the principles of the preceding courses in General Chemistry and Qualitative Analysis. The separation and identification of the less common elements such as selenium, tellurium, vanadium, and tungsten. Some practice is given in "dry analysis" so as to enable the student to grasp these methods of attack in complete analysis.

Prerequisites: Ch 106 and 131, or equivalent. Elective; sophomore year; first term; 5 credits; 1 lecture; 2 recitations; 3 three-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 241. **Quantitative Analysis.** Elementary gravimetric and volumetric analysis as far as through oxidation and reduction.

Required in Mining Engineering; sophomore year; first term; 3 credits; 1 lecture and 1 recitation; 6 hours laboratory work. Fee \$4.50. Deposit \$2.00.

Ch 242. **Quantitative Analysis.** Continuation of Ch 241. Gravimetric and volumetric analysis of limestone, iron, lead, zinc, arsenic, and antimony ores, and various products from the copper refineries.

Required in Mines; sophomore year; second term; 3 credits; 1 lecture; 1 recitation; 6 hours laboratory work. Fee \$4.50. Deposit \$2.00.

Ch 244. **Quantitative Analysis.** Elementary quantitative analysis.

Required in Pharmacy and Chemical Engineering; sophomore year; second or third term; 5 credits; 1 lecture; 1 recitation; 12 hours laboratory work. Fee \$7.50. Deposit \$2.00.

Ch 245. **Quantitative Analysis.** Continuation of Ch 244. Analysis of steels, brasses, and metallurgical and industrial products.

Required in Chemical Engineering; 1 recitation; 12 hours laboratory work. Fee \$7.50. Deposit \$2.00.

Ch 247. **Quantitative Analysis.** For Agricultural students. Exercises in gravimetric and volumetric analysis of various materials related to agricultural pursuits, with a view of teaching skill in the

manipulation of instruments of precision, especially in the use of the analytical balance; stoichiometrical problems.

Prerequisite: Ch 103. Required in Agriculture; sophomore year; first term; 5 credits; 1 lecture; 2 recitations; 3 three-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 251. **Agricultural Chemistry.** The lectures lay the foundation for the correlation of plant chemistry, soil chemistry, and fertilizer chemistry, and emphasize the economic importance of certain groups of compounds—as the carbohydrates, fats, and proteins—which characterize our commonly-grown farm crops. The laboratory work supplements the lecture work.

Prerequisites: Ch 247, 225. Required in Agriculture; sophomore year; third term; 5 credits; 3 lectures; 3 three-hour laboratory periods (one devoted to supervised study and recitation). Fee \$7.50. Deposit \$2.00.

Ch 321. **Textile Identification.** Identification of the different materials used in the textile industries.

Prerequisites: Ch 103, 221. Elective; junior year; third term; 2 credits; 1 lecture; 2 two-hour laboratory periods. Fee \$2.00. Deposit \$2.00.

Ch 328. **Organic Analysis.** Qualitative tests and analysis of some organic compounds and mixtures; quantitative determination of carbon, hydrogen, nitrogen, and sulfur in organic compounds.

Prerequisites: Ch 227, 244. Required in Chemical Engineering; junior year; third term; 5 credits; 1 recitation; 4 three-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 351. **Dairy Chemistry.** Chemistry of milk, butter, oleomargarine, cheese, and other dairy products.

Prerequisite: Ch 247 or equivalent. Elective; junior year; first term; 3 credits; 3 three-hour laboratory periods; recitations at discretion of instructor during laboratory periods. Fee \$4.00. Deposit \$2.00.

Ch 352. **Chemistry of Spraying Materials.** Chemistry of the various insecticides and fungicides and inspection of a number of the commercial spraying materials.

Prerequisite: Ch 247 or equivalent. Elective; junior year; second term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$2.00.

Ch 353. **Chemistry of Horticultural Products.** Chemistry of fruits and fruit products, vegetable and vegetable products, as related to industrial processes.

Prerequisite: Ch 244 or equivalent. Elective; junior year; third term; 3 credits; 3 three-hour laboratory periods.

Ch 355. **Chemistry of Soil Fertility.** This course is concerned primarily with methods and principles involved in the chemical work required in soil fertility investigations. Acidity, alkalinity, carbonates, ammonia, nitrates, organic matter, and humus determinations are most prominent. Especially for juniors in Soils.

Prerequisites: Ch 224, 247. Elective; junior year; second term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$2.00.

Ch 361. **Physiological Chemistry of Nutrition.** Qualitative tests and quantitative analysis of the end products of metabolism. Effects of changes in diet on the composition of the blood and urine.

Prerequisites: Ch 221 and 222. Elective in Home Economics; junior year; 5 credits; 1 lecture; 1 recitation; 3 four-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 371. **Alkaloidal Testing.** Study of the properties of the common alkaloidal drugs; testing for detecting and methods for isolating the common poisons from plants and animal tissues.

Prerequisites: Ch 227, 224. Required in Pharmacy; junior year; first term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$2.00.

Ch 374. **Drug Assaying.** Quantitative estimation of the active principles of crude drugs and their preparations, such as solid and fluid extracts, tinctures, pills, etc.

Prerequisite: Ch 371. Required in Pharmacy; junior year; second term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$2.00.

Ch 375. **Advanced Drug Assaying.** An advanced course for students in Pharmacy who intend to enter manufacturing pharmaceutical laboratories.

Prerequisite: Ch 374. Elective; senior year; first term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$2.00.

Ch 377. **Food and Drug Analysis.** Designed to fit students for positions in food and drug laboratories. Qualitative and quantitative analysis of food and drug products commonly subject to adulteration.

Prerequisites: Ch 227, 224; Bot 109. Required in Pharmacy; senior year; second term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$2.00.

Ch 378. **Advanced Food and Drug Analysis.** Continuation of Ch 377.

Prerequisite: Ch 377. Elective in Pharmacy; senior year; second term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$2.00.

Ch 411. **Elementary Glass Blowing and Repairing.** Elements of the art of welding, cutting, and grinding glass. Each student must procure his own glass and files. Especially for those who expect to become instructors in high schools.

Elective; junior or senior year; 1 credit; 1 three-hour laboratory period. Fee \$2.00. Text: Woollatt, Laboratory Arts. Frary, Glass Blowing.

Ch 429. **Organic Synthesis.** The methods of synthesis for the more complex organic compounds; acetoacetic ester, malonic ester; Grignard's reagents; the zinc alkyls; diazonium compounds and their use in synthetic chemistry.

Prerequisites: Ch 227, 244. Elective; senior year; first term; 5 credits; 2 recitations; 3 three-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 461. **Physiological Chemistry.** Properties, chemical nature, and reactions of the important body tissues, enzyme action, digestion, metabolism; blood tests and urine analysis.

Prerequisites: Ch 227, 224, 222. Required in Pharmacy; senior year; third term; 5 credits; 2 recitations; 3 three-hour laboratory periods. Fee \$7.50. Deposit \$2.00.

Ch 481, 482, 483. **Physical Chemistry.** Molecular weight determinations; properties of liquids; dilute solutions; solubilities; conducting of solutions; chemical equilibrium; velocity of reactions; thermochemical measurements.

Prerequisites: Ch 106, 233, 245; Mth 131. Required in Chemical Engineering; senior year; three terms; 3 credits each term; 3 three-hour laboratory periods. Fee \$4.50 each term. Deposit \$2.00 each term.

Ch 490. **Minor Seminar in Chemistry.** Required of student assistants in Chemistry; open also to students who intend to teach elementary Chemistry in high schools. Topics covered: the fundamental principles of Chemistry and methods of presentation to classes; discussion of note-books and examination papers; methods of grading; classroom and laboratory administration; assembling apparatus; laboratory furnishings; repairs.

Prerequisites: Ch 106, 244, 231, 481. Elective; graduate year; 3 lectures or laboratory periods. Fees and deposits to be arranged.

Ch 491, 492, 493. **Advanced Inorganic Chemistry.** A graduate course intended to classify and correlate the student's knowledge of

the field of chemistry as viewed from the several standpoints of the various courses he has pursued. Lectures, collateral readings, and discussions on the periodic system from the point of view of Mendelejeff, Lothar Meyer, Harkins, and Werner; valency; X-ray and crystal structure; molecular symmetry as exemplified in crystal form; chemistry of the rarer elements; higher order compounds; complex inorganic acids; inorganic stereochemistry and isomerism; electron theory and electromerism; correlation of inorganic and organic Chemistry based on the electron theory; the later ideas of valency; cooling curves and thermal analysis; colloids; and similar topics.

Elective; any term; 2 meetings each week.

Ch 494. **History of Chemistry.** Rise and development of chemical theories and laws.

Prerequisite: Ch 106 or equivalent. Elective; second term; 2 credits; 2 lectures or recitations.

VOCATIONAL COURSE

Ch 51. **Dairy Chemistry.** A very elementary course of laboratory exercises designed to acquaint creamery operators with the principles and technique involved in such laboratory work as the testing of milk and cream for acidity, total solids, ash, etc.

Required in Dairy Manufactures Short Course; second term; 1 credit; 1 three-hour laboratory period. Fee \$1.50. Deposit \$0.50.

ENGLISH LANGUAGE AND LITERATURE

It is the aim of this department to teach the student that the essential part of any effective composition, whether oral or written, is thought well organized and well expressed; that to comprehend clearly and to feel strongly what he has to say, are the indispensable conditions of making others comprehend and feel. Thought so organized and expressed is found in good literature; this he is taught to appreciate. In all the collegiate courses in English the work is correlated with that offered in the other departments, to bring it into harmony with the spirit of the institution.

Equipment. The College Library, with its excellent resources in general and technical literature, including all the leading periodicals, affords abundant opportunity for the student in English to carry on his studies with profit and satisfaction. In addition, the opportunities for expression and appreciation afforded by the student activities and organizations—forensic, dramatic, literary, and journalistic—are exceptionally attractive. (For courses in Public Speaking and Dramatics see pages 59-61.

COLLEGIATE COURSES

Eng 101. **English Composition.** Review of principles of rhetoric; practice in written and oral composition; frequent conferences between instructor and student as aids in meeting individual needs. Note: All students registering in Eng 101 are required to take a general examination on the first Wednesday of the term; see section on General Information, p. 79.

Prerequisites: Three units of English earned in standard high schools. Required in all schools; freshman year (in Engineering, freshman, sophomore, or junior year); first term; 3 credits; 3 recitations. Fee \$0.25. Texts: *Engineering and Forestry*: Watt, Composition of Technical Papers. Greever and Jones, Century Handbook. *Commerce*: Hotchkiss and Kilduff, Handbook of Business English. Foerster and Stedman, Sentences and Thinking. *Others*: Foerster and Stedman, Sentences and Thinking. Greever and Jones, Century Handbook.

Eng 102. **English Composition.** Continuation of Eng 101. Reading, practice writing, and discussion to cultivate clearness of thought and accuracy of expression. The work is modified and adapted to meet the requirements of the students in the several schools.

Prerequisite: Eng 101. Required in all schools except Commerce (freshman year) and in Engineering (freshman, sophomore, or junior year); second term; 3 credits; 3 recitations. Fee \$0.25. Texts: *Engineering and Forestry*: Watt, Composition of Technical Papers. *Others*: Fulton, Expository Writing.

Eng 103. **Technical Composition.** Classes organized according to schools or curricula. Material for practice writing is worked out in active cooperation with instructors in technical courses. Literature of contemporary interest is used as a basis for discussion and writing.

Prerequisite: Eng 102. Required in all schools except in Commerce and Forestry (freshman year) and in Engineering (freshman, sophomore, or junior year); third term; 3 credits; 3 recitations. Text: *Home Economics*: Moore, English Composition for College Women.

Eng 105. **Business Correspondence.** The business letter in detail, special attention being given to letters of application, letters of inquiry and information, circular letters, letters of complaint, sales letters, follow-up letters, and collection letters.

Prerequisite: Eng 101. Required in Commerce; freshman year; second term; 3 credits; 3 recitations. Fee \$0.25. Text: Butler and Burd, Commercial Correspondence.

S. H. Peterson, C. Naether, M. Helm

Eng 106. **Advanced Business English.** The preparation of manuscript and copy for the printer; study of the advertising circular, students being required to plan and complete circulars for various advertising purposes; practice in writing informal trade agreements, specifications, and other business forms; study of postal regulations.

Prerequisite: Eng 105 or equivalent. Required in Commerce; freshman year; third term; 3 credits; 3 recitations. Text: Butler and Burd, Commercial Correspondence.

S. H. Peterson, C. Naether, M. Helm

Eng 201. **Advanced English Composition.** The object of this course is to develop facility and clarity of expression. Intensive study of the popular essays; the biography, and the criticism, as special forms of exposition; exercises in analysis and in the application of the mechanics of expository outlines; long and short themes.

Prerequisites: Eng 101, 102, 103. Elective; sophomore or junior year; any term; 3 credits; 3 recitations. Text: Gardner, The Forms of Prose Literature.

Eng 211. **The English Essay.** Study of structure of the essay; the essay as expression of national life and thought; the growth of

the economic, critical, historical, and personal essay. Class and individual assignments from Macaulay, Arnold, Pater, Ruskin, Stevenson, and others; lectures and reports.

Prerequisites: Eng 101, 102, 103, or equivalent. Elective; sophomore or junior year; first term; 3 credits; 3 recitations. Texts: Canby, Facts, Thought, and Imagination. Howe, Selections from Hazlitt. Hufford, Essays of Ruskin. *F. Berchtold*

Eng 212. **The English Drama.** Study of the structure and technique of the drama considered as a distinct literary type; differentiation of tragedy, comedy, melodrama, and farce; study of plot, character, and setting, with reading and analysis of plays for verification of principles derived. Reports, oral and written, on plays and topics assigned for collateral reading.

Prerequisites: Eng 101, 102, 103, or equivalent. Elective; sophomore year; second term; 3 recitations; 3 credits. Text: Woodbridge, The Drama: Its Laws and Its Technique. *L. B. Baldwin*

Eng 213. **The Short-Story.** Reading, study, and composition of the short-story as a distinct literary type; analysis of three prescribed stories emphasizing respectively plot, character, and setting. Lectures, recitations, tests.

Prerequisites: Eng 101, 102, 103, or equivalent. Elective; sophomore or junior year; third term; 3 credits; 4 recitations. Text: Ashmun, Modern Short-Stories. *L. B. Baldwin*

Eng 214. **The Novel.** Study of the structure and content of the realistic as well as the romantic novel; growth of the novel of manners, of character, of the problem novel; study of the modification, variation and persistence of the larger categories of fiction. Class and individual assignments, lectures, and reports.

Prerequisites: Eng 101, 102, 103. Elective; sophomore or junior year; second term; 3 credits; 3 recitations. Texts: Cross, Development of the English Novel. Burton, Masters of the English Novel. *F. Berchtold*

Eng 321. **English Literature.** A general outline course in the history of English literature. The aim is to cultivate an appreciation of what is excellent in quality and form. Masterpieces representing the best thought and form are studied in class or assigned to students for careful reading and reports. Field of study: English literature from its beginning to the end of the eighteenth century.

Elective; junior year; first term; 3 credits; 3 recitations. Text: Moody and Lovett, History of English Literature. *F. Berchtold*

Eng 322. **English Literature.** A continuation of Eng 321. Study of the master minds of the nineteenth century. Lectures, readings

and discussion; critical reports on assigned topics required from all the students.

Elective; junior year; second term; 3 credits; 3 recitations. Text: Moody and Lovett, *History of English Literature*. *F. Berchtold*

Eng 323. **Contemporary English Literature.** English literature of the late nineteenth and twentieth centuries.

Elective; junior year; third term; 3 credits; 3 recitations. Text: Cunliffe, *Century Readings in English Literature*. *F. Berchtold*

Eng 431. **American Literature.** Study of the growth and development of literature in our country. Emphasis placed on the study of writers of the nineteenth century, including Irving, Cooper, Bryant, Poe, Hawthorne, Longfellow, Holmes, and Lowell, and others. Lectures; class study; class reading; reports on assigned topics; essays.

Elective; junior or senior year; first term; 3 credits; 3 recitations. Text: Boynton, *American Literature*. *F. Berchtold*

Eng 432. **American Literature.** A continuation of Eng 431. The metropolitan writers; literature in the South; literature in the West; present schools and tendencies. Lectures; classroom work; reports; essays.

Elective; junior or senior year; second term; 3 credits; 3 recitations. Text: Boynton, *American Literature*. *F. Berchtold*

Eng 433. **American Literature.** A continuation of Eng 432. Study of American writers of the twentieth century, including the more important literature of the Great War. Contemporary American periodical literature. Lectures; assigned readings; reports; essays.

Elective; junior or senior year; second term; 3 credits; 3 recitations. Text: Pattee, *American Literature Since 1870*. *F. Berchtold*

Eng 441. **Tennyson.** A study of the man as representative poet of the nineteenth century and of his outlook upon life, together with an introduction to the study of poetry through a careful reading of his more significant poems.

Prerequisites: Eng 101, 102, 103, or equivalent. Elective; junior or senior year; first term; 3 credits; 2 lectures; 1 recitation.

M. E. Smith

Eng 442. **Browning.** The most noteworthy of the shorter poems are read and carefully studied. The purpose of the course is to remove difficulties and to bring the student into touch with the robust, optimistic personality of the poet.

Prerequisites: Eng 101, 102, 103, or equivalent. Elective; junior or senior year; second term; 3 credits; 2 lectures; 1 recitation.

M. E. Smith

Eng 443. **Shakespeare.** A careful reading of plays of various types with a view to the forming of some estimate of the poet's genius and outlook. Attention is paid to the relation between the Elizabethan Drama and the modern play.

Prerequisites: Eng 101, 102, 103, or equivalent. Elective; junior or senior year; third term; 3 credits; 2 lectures; 1 recitation.

M. E. Smith

Eng 481, 482, 483. **Seminar.** Reading and analysis of the recognized masterpieces of continental European literature in approved translations. French, Italian, Spanish—Scandinavian, Teutonic—Russian, Polish.

Elective; three terms; 2 credits each term; 2 recitations.

F. Berchtold

VOCATIONAL COURSES

Special Composition. If a student, in his work in any department, submits papers notably deficient in English, either his dean or his major professor will require him to take special work consisting of theme work and consultations, and continue until his faults are corrected. For students conditioned in entrance English, or registered as vocational students.

Eng 11. **Vocational English.** English grammar.

Vocational curricula; first year; first term; 3 credits; 3 recitations. Text: Bowlin and Marsh, Vocational English.

Eng 12. **Vocational English Composition.**

Prerequisite: Eng 11. Vocational curricula; first year; second term; 3 credits; 3 recitations. Text: Huntington, Elements of English Composition.

Eng 13. **Vocational English.** Continuation of Eng 12.

Prerequisite: Eng 12. Vocational curricula; first year; third term; 3 credits; 3 recitations. Text: Huntington, Elements of English Composition.

Eng 21. **Advanced Vocational English.** Advanced Composition.

Prerequisite: One year high school English, or Eng 11, 12, 13. Vocational curricula; second year; first term; 3 credits; 3 recitations. Text: Webster, English for Secondary Schools.

Eng 22. **Advanced Vocational English.** Continuation of Eng 21.

Prerequisite: Eng 21. Vocational curricula; second year; second term; 3 credits; 3 recitations. Text: Webster, English for Secondary Schools.

Eng 23. **Advanced Vocational English.** Continuation of Eng 22.

Prerequisite: Eng 22. Vocational curricula; second year; third term; 3 credits; 3 recitations. Text: Webster, English for Secondary Schools.

Eng 31. **Junior Secondary English.** Rhetoric.

Prerequisite: Two years high school English or Eng 23. Vocational curricula; second year; first term; 3 credits; 3 recitations. Text: Gardiner, Kittredge and Arnold, Manual of Composition and Rhetoric.

Eng 32. **Junior Secondary English.** Continuation of Eng 31.

Prerequisite: Eng 31. Vocational curricula; second year; second term; 3 credits; 3 recitations. Text: Gardiner, Kittridge and Arnold, Manual of Composition and Rhetoric.

Eng 33. **Junior Secondary English.** Continuation of Eng 32.

Prerequisite: Eng 32. Vocational curricula; second year; third term; 3 credits; 3 recitations. Text: Gardiner, Kittredge and Arnold, Manual of Composition and Rhetoric.

ENTOMOLOGY

The courses in Entomology are planned to acquaint the student with the proper relationship of entomology to general agriculture; to prepare students for specialized entomological training; and to meet the needs of students from other departments who desire work in Entomology. Two fields of advanced work in Entomology are offered: Applied Entomology and Forest Entomology.

The general courses in Economic Entomology are designed to provide the student with a practical grasp of the principles of applied Entomology including a knowledge of the commoner pests, their general habits and life-history, and the application of the most approved principles in insect-pest control.

Forest Entomology includes a general consideration of the main insect groups and their relationships. An intensive study of the main groups of forest insects is made and practical investigation of forest areas is assigned in order to teach the type and extent of insect infestation, methods in forest surveys and in report writing, and the principles underlying forest insect control.

Advanced courses are planned to equip students specializing in Entomology with a fundamental groundwork in the science sufficient to prepare them for effective service in applied Entomology and to fit them for advanced research study.

Equipment. This department occupies rooms on the third floor of Agricultural Hall. The laboratories are well equipped for teaching general Entomology and fairly well equipped for advanced research work. In the museum are 5000 determined species of insects, including a representative collection of Oregon material. A display of Ricker mounts and St. Louis boxes containing life-history studies of injurious forms and their typical injury are available. The entomological library is a source of considerable pride, being well supplied with old volumes, complete sets of entomological periodicals, reports, and memoirs. Through the courtesy of the librarian of the United States Department of Agriculture students may borrow entomological literature from the library of the Department of Agriculture and the Congressional Library.

COLLEGIATE COURSES

Ent 131, 132, 133. **Commercial Bee Culture.** Designed primarily for the student who contemplates taking up honey production as an occupation. The course includes a study of the selection and preparation of equipment; the biology and life-history of the honey-bee; honey flora; fall, winter, spring, and summer management; marketing; disease control.

Elective; three terms; 3 credits each term; 2 recitations; 1 three-hour laboratory period. Fee 2.00 each term. Text: Phillips, *Bee Keeping*. *H. A. Scullen*

Ent 231, 232, 233. **Advanced Commercial Bee Culture.** Designed for students preparing for educational work in bee culture, inspection work, or extensive honey production. The course includes a study of apiary management, queen rearing, disease control, inspection work, etc.

Prerequisites: Ent 131, 132, 133, or 331. Elective; three terms; 4 credits each term; 3 recitations; 1 three-hour laboratory period. Fee \$2.00 each term. *H. A. Scullen*

Ent 301. **Principles of Economic Entomology.** Designed primarily for agricultural students. A consideration of typical economic forms of insects in the principal orders and more important families, and of the principles of insect-pest control.

Prerequisite: ZP 130. Required in Agriculture (plant group); junior year; first term; 4 credits; 3 recitations; 1 two-hour laboratory period. Fee \$2.00. Text: Osborn, *Agricultural Entomology*.

L. Lovett, W. J. Chamberlin

Ent 303. **General Entomology.** Collection, preservation, and elementary classification of insects. In field collecting, the economic aspects are emphasized. Life-history studies, the use of breeding cages, and practice in compiling field and laboratory notes receive attention.

Prerequisite: Ent 301. Required in Entomology; junior year; third term; 4 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$3.00. Text: Comstock, *Manual for the Study of Insects*.

W. J. Chamberlin

Ent 331. **Bee Culture.** A practical course in actual apiary manipulations designed primarily for students interested in Horticulture. The College has a small apiary where the simpler manipulations may be mastered.

Elective; third term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee 3.00. Text: Phillips, *Beekeeping*. *H. A. Scullen*

Ent 351. **Insect Morphology.** A study of the fundamentals of external, internal, and comparative morphology of insects including adaptive structures and their utility, and wing venation. Especial attention is given to structures used in classification.

Prerequisite: Ent 301. Required in Entomology; junior year; second term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$2.00. *F. H. Lathrop*

Ent 404. **Advanced Economic Entomology.** An intensive consideration of specific insect pests of farm, garden, and orchard particularly of the Northwest, and their control; latest developments in insecticides and their uses.

Prerequisite: Ent 301. Required in Entomology; elective to others; senior year; first term; 3 credits; 3 recitations or lectures; 1 three-hour laboratory period. Text: Sanderson, *Insect Pests of Farm, Garden, and Orchard*. *L. Lovett*

Ent 321. **Forest Entomology.** An intensive study of insects injurious to forests and forest products, forest insect surveys, and the principles of forest insect control.

Required in Forestry; junior year; second term; 4 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$2.00.

W. J. Chamberlin

Ent 422. **Forest Entomology.** A continuation of Ent 321.

Elective; senior year; first term; 3 credits; 2 recitations or lectures; 1 three-hour laboratory period. Fee \$2.00. *W. J. Chamberlin*

Ent 452. **Insect Ecology.** A study of insects in relation to their surroundings, considering the interrelations of insects with each other and with other animals and plants; influence of climate and other natural phenomena upon the distribution and activities of insects and application of these factors to Economic Entomology.

Prerequisite: Ent 303. Required in Entomology; senior year; second term; 5 credits; 3 recitations; 2 two-hour laboratory periods. Fee \$3.00. Text: Folsom, *Entomology with Reference to Its Biological and Economic Aspects*. *F. H. Lathrop*

Ent 453. **Insect Taxonomy.** The collection, preservation, and classification of insects of the several orders; intensive study of insects of selected groups; attention to phylogenetic relationships and distribution.

Prerequisite: Ent 307. Required in Entomology; senior year; third term; 5 credits; 2 recitations; 2 three-hour laboratory periods.

F. H. Lathrop

Ent 473. **The Teaching of Entomology.** Designed primarily for high school teachers. The principles of Entomology including materials and methods.

Prerequisites: Bot 471, ZP 472. Elective to seniors and graduate students; third term; 5 credits; 4 lectures; 1 three-hour laboratory period. Fee \$2.00.

Ent 481, 482, 483. **Seminar.** Reading, discussing, and abstracting of the leading articles on entomological topics as they appear in current scientific literature.

Elective to senior and graduate students; three terms; 1 credit.

L. Lovett

Ent 691, 692, 693. **Advanced Thesis and Research Methods.** A course offered only for graduate students. Students select problems in Applied Entomology; problems in Insect Ecology; monographic problems, etc.; emphasis on methods in research.

Elective to graduate students; three terms; credits to be arranged.

L. Lovett

VOCATIONAL COURSES

Ent 13. **Vocational Bee Culture.** Designed to meet the needs of the bee keeper who desires to improve his technique and increase his knowledge of commercial bee culture. Includes equipment, manipulation, disease control, queen rearing.

Bee Culture Short Course; 5 credits; 8 lectures; 8 two-hour laboratory periods. Fee \$3.00.

H. A. Scullen

Ent 14. **Injurious Insects.** A practical course in Entomology, including the life-history, habits, and control of insects of farm, garden, and orchard.

Required in Agriculture Vocational Curriculum; third term; 3 credits; 2 recitations; 1 two-hour laboratory period. Fee \$1.00. Text: Osburn, Economic Entomology.

W. J. Chamberlin

HISTORY

A knowledge of history is fundamental to leadership. Courses in History are required in the School of Commerce and are offered in all other schools of the College. The instruction is given largely by lectures, supplemented by the reference facilities of the College Library.

COURSES

Hst 124. American Exploration and Colonization.

Elective; first term; 3 credits; 3 recitations. *J. B. Horner*

Hst 125. American History. Political, constitutional, and economic history of the United States from the Revolution to the Civil War.

Elective; first term; 3 credits; 3 recitations. *J. B. Horner*

Hst 126. Recent History of the United States. History of the United States of America from the Civil War to the present time. Collateral with the text, such matters as the negro problem, the industrial revolution, capitalism and socialism, free silver, direct government, woman suffrage, the new nationalism, imperialism, the labor movement, the Panama-Colombia question, our relations with Europe and the Latin-American republics, are discussed.

Required in Commerce; freshman year; second or third term; 3 credits; 3 recitations. *J. B. Horner*

Hst 212. European History I. This course includes study of European history from the time of Louis XIV to the banishment of Napoleon.

Required in Commerce; sophomore year; first or second term; 3 credits; 3 recitations. *W. H. Ellison*

Hst 213. European History II. This course comprises a study of Europe from the fall of Napoleon to the present time.

Required in Commerce; sophomore year; second or third term; 3 credits; 3 recitations. *W. H. Ellison*

Hst 331. History of South America. The course includes the history of South America, Mexico, and Central America. Lectures and reading.

Elective; junior year; first or second term; 3 credits; 3 recitations. *W. H. Ellison*

Hst 340. History of Oregon. Includes history of Old Oregon now known as the Northwest States. Five epochs: early explorations; fur trade and colonization; provisional government; territorial

government; state government; Indian folk-lore; history of Oregon literature.

Required in Commerce (junior year); elective to all other juniors or seniors; any term; 3 credits; 3 recitations. Text: Horner, Oregon.
J. B. Horner

Hst 351. **Representative Men and Women.** Study of American leaders of thought and action. Students may elect fifty percent of their allotment of biographical reference work, subject to approval of the instructor. Lectures, assigned reading, and discussion.

Elective; junior year; third term; 3 credits; 3 recitations.

W. H. Ellison

Hst 361. **History of the Pacific Ocean Area.** The history of the activities of European peoples and of the United States in the Pacific Ocean and adjacent regions; study of the struggle for political and economic leadership; consideration of the present situation and problems within the area.

Elective; first or second term; junior or senior year; 3 credits; 3 recitations.

W. H. Ellison

Hst 411. **History of the British Empire.** A coherent view of the larger factors influencing the national development from early times to the British Empire of today.

Elective; senior year; first term; 3 credits; 3 recitations.

W. H. Ellison

Hst 421. **American Diplomatic History.** History of the chief events in American foreign affairs; changed policies of our Government; character studies of the leading men in our diplomatic work; application of our experience to present problems.

Elective; senior year; third term; 3 credits; 3 recitations.

W. H. Ellison

MATHEMATICS

COLLEGIATE COURSES

Mth 101. Counting Room Mathematics. Calculating machines; logarithms and slide rule, and their use as calculating devices.

Required in Commerce; freshman year; any term; 3 credits; 2 recitations; 2 one-hour instruction periods.

F. C. Kent, Maime Martens

Mth 102. Mathematics of Investment. The compound interest law, annuities, valuation of bonds, amortization, sinking funds, depreciation, building and loan societies, and national farm loan bank organizations are the chief topics considered.

Prerequisites: Mth 101; 2 units of high school mathematics. Required in Commerce; freshman year; any term; 3 credits; 3 recitations. Text: Skinner, Mathematical Theory of Investment.

F. C. Kent, Maime Martens

Mth 103. Introduction to Mathematical Statistics. An elementary recitation-laboratory course dealing with graphic representation of data, frequency curves, curve smoothing, calculation of averages, standard deviation, probable error of mean and of standard deviation, correlation table, ratio and coefficient, curves of regression.

Prerequisites: Mth 101; 2 units of high school mathematics. Required in Commerce; freshman year; any term; 3 credits; 2 recitations; 1 two-hour laboratory period. Text: West, Introduction to Mathematical Statistics.

F. C. Kent, Maime Martens

Mth 104. Advanced Calculating Machine Course. Instruction given on standard types of calculating machines with a view to practical office work.

Prerequisite: Mth 101. Elective; second or third term; 2 credits; 1 recitation; 5 one-hour laboratory periods.

F. C. Kent, Maime Martens

Mth 111. Plane Trigonometry. This course includes functions of acute angles, right angles, functions of any angle, relations between functions, inverse functions, trigonometric equations, and oblique triangles. Considerable time is devoted to the deduction of trigonometric formulae, study of trigonometric identities, and the solution of practical problems.

Required in Engineering; freshman year; any term; 4 credits; 5 recitations.

*N. Tartar, H. L. Beard, J. A. van Groos,
C. W. Vandewalker, G. A. Williams*

Mth 121. Algebra. A course for freshmen in Engineering whose work in Mth 111 discloses need for further preparation in Algebra before continuing their Mathematics.

Required of Engineering students found deficient in Algebra; freshman year; second or third term; 4 credits; 5 recitations.

N. Tartar

Mth 131. Elementary Analysis. Review of Algebra including radical expressions, quadratic equations, binomial theorem, progressions, and complex numbers. In Analytical Geometry the point, straight line, circle, conic sections, and some of the higher plane curves are studied. Considerable time is given to the plotting of curves in both rectangular and polar coordinates.

Required in Engineering, Forestry, and Mines; freshman year; any term; 4 credits; 4 recitations.

*E. B. Beaty, N. Tartar, H. L. Beard, C. V. Vandewalker,
J. A. van Groos, G. A. Williams*

Mth 132. Elementary Analysis. A continuation of Mth 131. Subjects studied are functions and graphs, formula for differentiation, tangents and normals, maxima and minima, rates, and standard forms of integration.

Required in Engineering, Forestry, and Mines; freshman year; any term; 4 credits; 5 recitations.

*E. B. Beaty, N. Tartar, H. L. Beard, J. A. van Groos,
C. V. Vandewalker, G. A. Williams*

Mth 201, 202, 203. College Mathematics. These courses include portions of plane trigonometry, selected topics in advanced algebra, and a considerable amount of the elementary portions of the calculus, comprising a coherent year's work in college mathematics. Primarily, the aim is preparation for advanced work in applied mathematics, statistics, insurance, biology, and economics. But in both subject-matter and methods of presentation the cultural value of mathematics is by no means neglected.

Prerequisite: $2\frac{1}{2}$ units of high school mathematics or 2 units of high school and one term of college mathematics. Elective; freshman or sophomore year; 3 credits each term; 3 recitations.

F. C. Kent

Mth 251. Differential Calculus. Differentiation; simple applications of the derivative; successive differentiation; maxima and minima; points of inflection; curve tracing; differentials; rates; change of variable; indeterminate form; partial differentiation.

Required in Engineering; sophomore year; any term; 4 credits; 5 recitations.

*C. L. Johnson, E. B. Beaty, J. A. van Groos,
C. V. Vandewalker*

Mth 252. **Integral Calculus.** Standard forms of integrations; integration of trigonometric differentials; constant of integration; the definite integral; integration of rational fractions.

Required in Engineering; sophomore year; any term; 4 credits; 5 recitations.

*C. L. Johnson, E. B. Beaty, J. A. van Groos,
C. V. Vandewalker*

Mth 253. **Integral Calculus.** A continuation of Mth 252. Integration by rationalization; integration as a process of summation with applications; successive integration; ordinary differential equations.

Required in Engineering; sophomore year; any term; 4 credits; 5 recitations.

*C. L. Johnson, E. B. Beaty, J. A. van Groos,
C. V. Vandewalker*

Mth 301. **Mathematics of Insurance.** This course deals with the mathematical calculations involved in actuarial and investment problems.

Prerequisite: Mth 201, 202, 203. Elective; 3 credits; 3 recitations.

F. C. Kent

Mth 302. **Statistical Mathematics.** An advanced course in mathematical statistics for students majoring in economics, biology, education, or farm management.

Prerequisite: Mth 201, 202, 203, or an equivalent amount of other college mathematics. Elective; 3 credits; 3 recitations.

F. C. Kent

Mth 361. **Differential Equations.** Study of the solution of ordinary and partial differential equations which the Engineering student is likely to encounter.

Prerequisites: Mth 251, 252, 253. Elective; junior year; first or third term; 3 credits; 3 recitations.

C. L. Johnson, E. B. Beaty

Mth 371. **Method of Least Squares.**

Prerequisites: Mth 251, 252, 253. Elective; junior year; second term; 2 credits; 2 recitations.

C. L. Johnson

Mth 381. **Hyperbolic Functions.**

Prerequisites: Mth 251, 252, 253, 361. Elective; junior or senior year; third term; 2 credits; 2 recitations.

C. L. Johnson

VOCATIONAL COURSES

Mth 21, 22, 23. **Algebra.** Drill in the fundamental operations; use of parentheses; special rules of multiplication and division; factoring; solutions of equations by factoring; highest common factor; least common multiple; fractions; equations containing fractions; ratio and proportion; graphical representation; linear system;

square root; radicals; graphical solution of equations in one unknown.

Required in Mechanic Arts Vocational Curriculum; three terms; 4 credits each term; 5 recitations. *Viola Dinger*

Mth 24. Algebra. Quadratic equations; graphs of quadratic equations; system solved by quadratics; theory of exponents; irrational equations; variation and imaginaries.

Required in Engineering of freshmen who enter with but one year of Algebra; any term; 4 credits; 5 recitations.

N. Tartar, H. L. Beard

Mth 24a. Algebra. This course with Mth 24b is equivalent to Mth 24.

First term; $2\frac{1}{2}$ credits; 3 recitations. *G. A. Williams*

Mth 24b Algebra. With Mth 24a equivalent to Mth 24.

Second term; $1\frac{1}{2}$ credits; 2 recitations. *G. A. Williams*

Mth 81. Plane Geometry. The first two books of Plane Geometry.

Required of freshmen entering deficient in first semester of Plane Geometry; any term; 4 credits; 5 recitations. *N. Tartar*

Mth 81a. Plane Geometry. With Mth 81b equivalent to Mth 81.

First or second term; $2\frac{1}{2}$ credits; 3 recitations. *N. Tartar*

Mth 81b. Plane Geometry. With Mth 81a equivalent to Mth 81.

Second or third term; $1\frac{1}{2}$ credits; 2 recitations. *N. Tartar*

Mth 82. Plane Geometry. A continuation of Mth 81, covering the last three books of Plane Geometry. Many original exercises are studied.

Required of freshmen who enter deficient in second semester of Plane Geometry; second or third term; 4 credits; 5 recitations.

N. Tartar

Mth 82a. Plane Geometry. With Mth 82b equivalent to Mth 82.

First or second term; $2\frac{1}{2}$ credits; 3 recitations. *H. L. Beard*

Mth 82b. Plane Geometry. With Mth 82a equivalent to Mth 82.

Second or third term; $1\frac{1}{2}$ credits; 2 recitations. *H. L. Beard*

Mth 88. Solid Geometry.

Required in Engineering of freshmen who are deficient in second semester of Solid Geometry; first or third term; 3 credits; 4 recitations.

C. V. Vandewalker

Mth 91, 92, 93. Commercial Arithmetic. A review of all the essential operations. Stress on short methods; daily drills in rapid calculation; computation of estimates; partnership settlements, etc.

Required in Commerce Vocational Curriculum; first year; three terms; 3 credits each term; 5 recitations. *N. Tartar*

Mth 94. **Shop Arithmetic.** Thorough drill in the principles of Arithmetic, with special application to shop problems of all sorts.

Required in Mechanic Arts Vocational Curriculum; first or third term; 4 credits; 5 recitations.

MODERN LANGUAGES

The department of Modern Languages offers four years of work in French, German, and Spanish.

In harmony with all other courses of the College, the final aim of the instruction is practical use in the various spheres of activity and pursuits of life. While the disciplinary and cultural values of language study are duly recognized and emphasized, the predominant purpose is the development of personal power for social service.

A certain amount of specified work in a language is definitely required in some curricula. In other curricula, German, French, and Spanish may be taken as electives, and when so taken the student receives full credit for any work completed. Elementary classes are formed at the beginning of the first, second, and third terms. Students who have had considerable language work in high schools should consult with the head of the department before registering for a language course.

COURSES

FRENCH

ML 111. Elementary French. Drill in the rudiments of the language; oral and written exercises; idiomatic translations; reading of easy selections.

Elective; any year; any term; 3 credits; 3 recitations.

ML 112. Elementary French. Continuation of ML 111.

Prerequisite. ML 111 or equivalent. Elective; any year; second term; 3 credits; 3 recitations.

ML 113. Elementary French. Continuation of ML 112.

Prerequisite: ML 112 or equivalent. Elective; any year; third term; 3 credits; 3 recitations.

ML 211, 212, 213. Intermediate French. Advanced grammar; irregular verbs; subjunctive mood; reading of narrative, descriptive, and historical prose; oral exercises on texts read.

Prerequisites: ML 111, 112, 113, or equivalent. Elective; any year; three terms; 3 credits each term; 3 recitations.

ML 311, 312, 313. Advanced French. Reading of scientific, technical, and miscellaneous texts with corresponding composition and conversation.

Prerequisites: ML 211, 212, 213, or equivalent. Elective; any year; three terms; 3 credits each term; 3 recitations.

ML 411, 412, 413. **Advanced French.** Planned especially for prospective teachers of French and others desiring to acquire a comprehensive knowledge of the language. Advanced composition; reading of advanced texts of various classes of literature; oral and written reports.

Prerequisites: ML 311, 312, 313, or equivalent. Elective; any year; three terms; 3 credits each term; 3 recitations.

SPANISH

ML 121. **Elementary Spanish.** Essentials of vocabulary and grammar; auxiliaries, regular and radical changing verbs, and some of the more common irregular forms; reading of easy prose selections; idiomatic translations; much oral drill and conversation.

Elective; any year; any term; 3 credits; 3 recitations.

ML 122. **Elementary Spanish.** Continuation of ML 121.

Prerequisite: ML 121 or equivalent. Elective; any year; second term; 3 credits; 3 recitations.

ML 123. **Elementary Spanish.** A continuation of ML 122.

Prerequisite: ML 122 or equivalent. Elective; any year; third term; 3 credits; 3 recitations.

ML 221, 222, 223. **Intermediate Spanish.** Grammar continued; irregular verbs; subjunctive mode in all its uses; idiomatic phrases; social and epistolary forms; reading of suitable texts; oral and written exercises.

Prerequisites: ML 121, 122, 123, or equivalent. Elective; any year; three terms; 3 credits each term; 3 recitations.

ML 321, 322, 323. **Advanced Spanish.** Reading of commercial texts; commercial correspondence; descriptive and technical prose; much conversation.

Prerequisites: ML 221, 222, 223, or equivalent. Elective; any year; three terms; 3 credits each term; 3 recitations.

ML 421, 422, 423. **Advanced Spanish.** Especially for prospective teachers and others desiring a comprehensive knowledge of Spanish. Advanced composition; reading of advanced texts of the various classes of literature; oral and written reports.

Prerequisites: ML 321, 322, 323, or equivalent. Elective; any year; three terms; 3 credits each term; 3 recitations.

GERMAN

ML 131. **Elementary German.** Rudiments of the language; oral and written exercises; translation of easy selections.

Elective; any term; 3 credits; 3 recitations.

ML 132. **Elementary German.** Continuation of ML 131.

Prerequisite: ML 131 or equivalent. Elective; second term; 3 credits; 3 recitations.

ML 133. **Elementary German.** Continuation of ML 132.

Prerequisite: ML 132 or equivalent. Elective; third term; 3 credits; 3 recitations.

ML 231, 232, 233. **Intermediate German.**

Prerequisite: ML 131, 132, 133, or equivalent. Elective; three terms; 3 credits; 3 recitations.

ML 331, 332, 333. **Advanced German.**

Prerequisites: ML 131, 132, 133, 231, 232, 233, or equivalent. Elective; three terms; 3 credits each term; 3 recitations.

ML 431, 432, 433. **Advanced German.**

Prerequisites: ML 331, 332, 333, or equivalent. Elective; three terms; 3 credits each term; 3 recitations.

PHYSICS

The department seeks to adapt each course to the needs of those enrolled in it. To attain this end the work in General Physics has been subdivided into several courses that suit the needs of the various technical schools of the College. These courses all cover the customary range of subjects: mechanics, sound, heat, light, electricity and magnetism, and all naturally emphasize the same fundamental principles; they differ in the relative amounts of time devoted to the several subjects and in the practical applications that are studied.

The advanced courses are built up on the same general scheme as the general courses; each emphasizes the fundamental principles in its field and puts stress upon practical applications both in lecture and in laboratory.

A course in astronomy is taught by the department because it was best fitted to undertake this work when demand arose for a general course in this subject.

Equipment. The department has a good supply of lecture demonstration apparatus and of general laboratory apparatus that enables the students to verify quantitatively the most important laws, to determine accurately some of the physical properties of substances, and also to obtain practice in the use and care of the common measuring instruments. For advanced work, the department is well equipped in electrical measurements, photometry, photography, and wireless telegraphy.

In the general library are many recent Physics texts and allied works, as well as a number of Physics periodicals, which are available to all.

COURSES

Ph 111, 112, 113. **Engineering Physics.** A course in general physics adapted to students in Engineering. Trigonometry must precede or accompany this course.

Required in Engineering (freshman year) and in Forestry (sophomore year); three terms; 3 credits each term; 2 lectures; 2 recitations; 1 two-hour laboratory period. Fee \$2.00 each term. Text: Anderson, *Physics for Technical Students*.

Ph 121, 122, 123. **General Physics.** A course adapted to the needs of students in Pharmacy and especially for those preparing to study medicine.

Prerequisite: Geometry. Required in Pharmacy; freshman year; three terms; 3 credits each term; 2 lectures; 2 recitations; 1 two-hour laboratory period. Fee \$2.00 each term.

W. Weniger

Ph 292, 293. **General Physics.** A brief descriptive course with such applications as are of greatest interest to students in Home Economics.

Required in Home Economics; sophomore year; second and third terms; $2\frac{1}{2}$ credits each term; 1 lecture; 2 recitations; 1 two-hour laboratory period. Fee \$2.00 each term. *Charlotte S. Taylor*

Ph 201, 202. **General Physics.** A brief course in General Physics.

Prerequisite: Geometry. Optional in Agriculture and Commerce; sophomore year; first and second terms; 3 credits each term; 2 lectures; 2 recitations; 1 two-hour laboratory period. Fee \$2.00 each term. Text: Anderson, Physics. *A. W. Marker*

Ph 210. **Advanced Engineering Physics.** An advanced course in heat, light, and electricity.

Prerequisite: Ph 111, 112, 113. Required in Chemical Engineering (sophomore year); elective to advanced students; third term; 3 credits; 2 lectures; 2 recitations; 1 two-hour laboratory period. Fee \$2.00. *W. B. Anderson*

Ph 221. **Mining Physics.** A course in general physics adapted to students who are taking calculus.

Prerequisite: Trigonometry; calculus must precede or accompany this course. Required in Mines; sophomore year; first term; 3 credits; 2 lectures; 2 recitations; 1 two-hour laboratory period. Fee \$2.00. Text: Anderson, Physics for Technical Students. *W. Weniger*

Ph 222. **Mining Physics.** Continuation of Ph 221.

Prerequisite: Ph 221. Required in Mines; sophomore year; second term; 5 credits; 3 recitations; 2 two-hour laboratory periods. Fee \$4.00. Text: Anderson, Physics for Technical Students. *W. Weniger*

Ph 223. **Mining Physics.** Continuation of Ph 222.

Prerequisite: Ph 222. Required in Mines; sophomore year; third term; 3 credits; 2 lectures; 2 recitations; 1 two-hour laboratory period. Fee \$2.00. Text: Anderson, Physics for Technical Students. *W. Weniger*

Ph 261. **Introductory Photography.** A course designed to acquaint the student with the different photographic processes. Emphasis is placed upon the theoretical as well as the practical side of the subject. Students are taught the proper use of the hand camera in negative making, the various positive processes, enlarging, lantern slide making, the preparation of different stock solutions, etc.

Prerequisites: Physics and Chemistry. Elective; first or third term; 3 credits; 1 lecture; 1 recitation; 4 hours of practical work. Fee \$4.00. *R. W. Uphoff*

Ph 262. **Commercial Photography.** A continuation of Ph 261 with emphasis on commercial work. The work includes such topics as copying, flashlights, interiors, photo-microscopy, sensitizing plates to various colors, preparing emulsions, blocking negatives, the uses of contrast filters, making of multiple plate panoramas, photographing furniture and various other commercial articles, etc.

Prerequisite: Ph 261. Elective; second term; 3 credits; 1 lecture; 1 class discussion; 4 hours of practical work. Fee \$5.00.

R. W. Uphoff

Ph 263. **Pictorial Photography.** A continuation of Ph 261 with emphasis on pictorial work. Color photography, soft focus landscape work, and special work in enlarging. A study is made of the various pictorial mediums such as carbon, platinum, gum bichromate, etc.

Prerequisite: Ph 261. Elective; third term; 3 credits; 1 lecture; 1 class discussion; 4 hours of practical work. Fee \$5.00.

R. W. Uphoff

Ph 290. **Descriptive Astronomy.** A brief elementary course covering the most important points relating to the heavenly bodies. Descriptive rather than mathematical in character.

Elective; third term; 2 credits; 2 recitations or equivalent in lectures and observational work, depending upon weather conditions.

W. Weniger

Ph 351. **Heat and Light.** An advanced course, taking up the phenomena of heat and light in detail, including recent discoveries.

Elective; first term; credit to depend on work done. Fee \$2.00.

Ph 352. **Electricity and Magnetism.** An advanced course with suitable practice in the laboratory.

Elective; second term; credit to depend on work done. Fee \$2.00.

Ph 353. **Wireless Telegraphy.** A study of the discoveries leading up to the practical application of electric waves to telegraphy; theory of modern radio transmission and receiving systems, including the wireless telephone. Laboratory measurements of inductance, capacity, and wave lengths; assembling and tuning complete transmitting and receiving sets; code practice. Laboratory sections limited to six students each.

Prerequisite: Ph 113. Elective; third term; 3 credits; 2 lectures; 2 recitations; 1 two-hour laboratory period. Fee \$2.00. *J. Jordan*

PUBLIC SPEAKING AND DRAMATICS

The purpose of this department is to aid students in the development of clear, original thinking and to give training in the correlation and organization of knowledge gained through study and experience. Much drill and criticism are given on organization of material, on platform work, and on the principles that underlie effective reading and speaking. The training goes far in helping to overcome self-consciousness and in aiding to build up a strong personal address.

The department offers not only courses that are designed to develop an appreciation of the best in reading and speaking, but also courses that are planned to suit the practical needs of the student.

While the work is adapted to the student who must get a maximum of platform experience in a few months, the courses are so correlated that one may secure progressive training covering a period of three years if he so desires.

Many plays, intramural and intercollegiate debates, and oratorical contests take place on the campus each year, and the department offers courses and much individual attention to students who wish to prepare for such work.

COURSES

PSp 254. Extempore Speaking. Practice in the development and presentation of speeches on topics of special interest to the students; voice training; some study of gesture, bearing, and elements of effectiveness in presentation; criticism on organization of material.

Required in Forestry (third term); elective to others (first, second, or third term); sophomore year; 3 credits; 3 recitations. Text: Wiman, Public Speaking. *C. B. Mitchell, G. R. Varney*

PSp 255. Practical Public Speaking. Practice in the construction and presentation of forms of addresses for special occasions; continuation of voice training and study of gesture and elements of effectiveness in delivery; criticism on organization and presentation. Some collateral reading.

Prerequisite: PSp 254. Elective; sophomore year; second or third term; 3 credits; 3 recitations. Text: Woolbert, The Fundamentals of Speech. *C. B. Mitchell, G. R. Varney*

PSp 256. Argumentation. Practical work in brief-drawing, collection and handling of evidence, and construction of the argumentative speech. Each student constructs several briefs and delivers several speeches. Criticism on presentation and construction.

Prerequisites: PSp 254, 255. Elective; third term; 3 credits; 3 recitations. Text: Foster, Argumentation and Debating.

C. B. Mitchell, G. R. Varney

PSp 257. Advanced Public Speaking. Construction and presentation of the extended address. Each student prepares and presents several long speeches. The psychology of public speaking is considered. Criticism on delivery and organization of material. Assigned readings. Students should confer with the instructor before electing this course. Limited to ten students.

Prerequisites: PSp 254, 255. Elective; third term; 3 credits; 3 recitations.

PSp 258. Parliamentary Drill. This course covers the principles of parliamentary usage and gives each student an opportunity to serve as chairman of several meetings during the term. Much practice will be afforded in the presentation of motions and in impromptu speaking under the supervision of a critic. Assigned readings.

Elective; first term; 2 credits; 2 recitations. Text: Howe, Handbook of Parliamentary Usage.

C. B. Mitchell, G. R. Varney

PSp 264. Expression. Literary interpretation, including analysis, memorizing, and rendering of selected masterpieces of prose and poetry; correction of erroneous habits of speech, of artificiality, affectation, and self-consciousness.

Elective; first or second term; 2 credits; 2 recitations.

Norma Olson

PSp 265. Expression. Continuation of PSp 264.

Prerequisite: PSp 264. Elective in Home Economics; second and third terms; 2 credits; 2 recitations.

Norma Olson

PSp 351. Oratory. Intended as special preparation for those who wish to enter oratorical work. Lecture on the theory of oratory; preparation of original orations; classroom exercises; personal conferences and criticism.

Prerequisite: PSp 254. Elective; first term; 2 credits; 2 recitations. Text: Shurter, The Rhetoric of Oratory.

G. R. Varney

PSp 357. Debating. Application of the principles of argumentation to debating; analysis and brief-drawing. Each student participates in several debates. Criticism on delivery and on the selection and handling of evidence in both constructive argument and refutation. Assigned readings.

Prerequisites: PSp 254, 255, 256. Elective; first term; 3 credits; 3 recitations.

PSp 464. **Dramatic Interpretation.** Advanced literary interpretation; training in delivery of masterpieces of prose and poetry; interpretative study of Shakespeare and modern drama; presentation of scenes from plays; bodily expression; impersonation.

Prerequisites: PSp 264, 265. Elective; first term; 2 credits; 2 recitations.

Norma Olson

PSp 465. **Community Drama.** Designed to meet the needs of community leaders. Pageantry, pantomime, tableaux, and shadow pictures; instruction in staging amateur productions. It is suggested that students take PSp 264, 265, and 464 before electing this course.

Elective; second or third term; 3 credits; 3 recitations.

C. B. Mitchell, Norma Olson

PSp 467, 468. **Story Telling.** Study of children's literature; analysis and reproduction of short stories suitable for the nursery, the kindergarten, and the primary grades.

Elective in Home Economics; second and third terms; 2 credits each term; 2 recitations.

Norma Olson

ZOOLOGY AND PHYSIOLOGY

The work in Zoology and Physiology is adapted, so far as possible, to the particular needs of students in Agriculture, Forestry, Pharmacy, and Home Economics. Opportunity is offered, to those who desire it, to receive training for teaching Zoology, Physiology, or Nature Study in public schools; for the development of the game and food resources of the State; or for the pursuance of studies in the field of research. In connection with the curriculum in Pharmacy, the required work forms a valuable pre-medical course of study.

Equipment. The laboratories of the department occupy rooms on the third floor of Agricultural Hall. As an adjunct to the laboratory facilities a set of nursery troughs for fish-cultural purposes has been erected on the campus adjacent to the zoological laboratory. The museum, in addition to a beautiful collection of native birds, contains a small collection of mounted mammals, the Ladd collection of bird skins, and numerous miscellaneous specimens.

COURSES

ZP 101, 102, 103. **General Zoology.** The fundamental problems of zoology. During the third term, particular attention is paid to vertebrate structures.

Required in Pharmacy, elective to others; freshman year; three terms; 3 credits each term; 2 lectures; 1 three-hour laboratory period. Fee \$1.50 each term. Deposit \$1.00. *N. Fasten and assistants*

ZP 130. **Principles of Economic Zoology.** The distribution, habits, and functions of animals with reference to their economic importance.

Required in Agriculture; freshman year; any term; 5 credits; 3 lectures; 2 three-hour laboratory periods. Fee \$3.00. Deposit \$2.00.

H. M. Wight and assistants

ZP 211, 212, 213. **Mammalian Anatomy.** Study of mammalian organization as a basis for the understanding of the human body. The laboratory work consists of some anatomy, histology, and embryology of a typical mammal.

Prerequisites: ZP 101, 102, 103, or equivalents. Required in Pharmacy; elective to others; sophomore year; three terms; 3 credits each term; 2 lectures; 1 three-hour laboratory period. Fee \$2.00 each term. Deposit \$1.00. *G. F. Sykes and assistants*

ZP 233. **Animal Ecology.** The relation of animals to their environment. The habits, associations, and economic importance of the various groups of animals.

Prerequisite: ZP 130. Elective; sophomore or junior year; third term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$1.50. Deposit \$1.00. *H. M. Wight*

ZP 302. Histology. A study of the various tissues of animals with emphasis on mammalian structures. Training in micro-technique, killing, fixing, imbedding, sectioning, and mounting of tissues. Given alternate years, alternating with ZP 312. Given 1921-22.

Prerequisite: ZP 103 or equivalent. Elective; junior or senior year; second term; 4 credits; 2 lectures; 2 three-hour laboratory periods. Fee \$3.00. Deposit \$3.00. *G. F. Sykes*

ZP 312. Embryology. The development of animals, with special reference to the frog, chick, and pig. Given alternate years, alternating with ZP 302. Not given 1921-22.

Prerequisite: ZP 103, or equivalent. Elective; junior or senior year; second term; 4 credits; 2 lectures; 2 three-hour laboratory periods. Fee \$3.00. Deposit \$3.00. *G. F. Sykes*

ZP 321. Elements of Physiology. The object of this course is to give the Home Economics student knowledge of life processes and anatomical relationships which are necessary in maintaining the highest efficiency of the human body.

Required in Home Economics; junior year; first or third term; 5 credits; 3 lectures; 2 three-hour laboratory periods. Fee \$3.00. Deposit \$2.00. *G. F. Sykes*

ZP 322, 323. General Physiology. Problems of nutrition, irritability, reproduction, etc., of the animal organism.

Prerequisite: ZP 321 or equivalent; Organic Chemistry. Elective; second and third terms; 3 credits each term; 2 lectures; 1 three-hour laboratory period. Fee \$3.00 each term. Deposit \$3.00. *G. F. Sykes*

ZP 331. Taxidermy and Zoological Collecting. Laboratory and field course in the methods involved in the preparation of skins and the preservation of museum specimens; study and practice in the methods involved in field survey work.

Prerequisite: ZP 130 or equivalent. Elective in Agriculture and Forestry; first term; credits to be arranged. Deposit \$1.00. *H. M. Wight*

ZP 342. Fish and Game Propagation. Lecture, laboratory and field course dealing with the propagation of fish and food animals of the field, forest, or farm. Special attention to the question of the utilization of farm streams and ponds for the rearing of fish and other valuable water-dwelling animals.

Prerequisite: ZP 130 or equivalent. Elective in Agriculture and Forestry; junior or senior year; second term; 3 credits; hours to be arranged. Fee \$1.50. Deposit \$1.00. *H. M. Wight*

ZP 351. **Genetics.** A lecture course dealing with the fundamental principles of variation and heredity as applied to animal and plant breeding.

Required in Agriculture; elective to others; junior or senior year; first term; 3 credits; 3 lectures; 1 recitation. Fee \$0.25. *N. Fasten*

ZP 352. **Evolution and Eugenics.** A lecture course dealing with the various ideas concerning the origin, development, and relation of organisms, with emphasis on human welfare.

Elective; junior or senior year; second term; 3 credits; 3 lectures; 1 recitation. Fee \$0.25. *N. Fasten*

ZP 361. **Animal Parasites.** A study of the role played by the lower animals in the production of disease.

Prerequisites: ZP 102 or 130, or equivalent. Elective; junior or senior year; third term; 3 credits; hours to be arranged. Fee \$2.00. Deposit \$2.00. *N. Fasten*

ZP 472. **The Teaching of Zoology.** A course in principles and materials of zoology for high school teachers and others. Coordinated with Bot 471 and Ent 473.

Elective; second term; 5 credits; 3 lectures; 2 three-hour laboratory periods. Fee \$1.50. Deposit \$1.00.

ZP 681, 682, 683. **Zoological Seminar.** Current problems in Zoology. The instructional staff and advanced students in the department attend and contribute original articles or abstracts of papers published in the current biological journals.

Required in Zoology; senior or graduate year; three terms; one credit each term; one hour a week.

ZP 691, 692, 693. **Advanced Study and Thesis.** Opportunity is given students who desire to specialize in Zoology or Physiology to take up work not given in the regular courses, or to undertake the investigation of special problems under the direction of one of the instructors in the department. Either major or minor work for the master's degree may be carried in this department.

Elective for senior or graduate students; any term; credits, prerequisites, etc., to be arranged by the instructor in charge, subject to the approval of the head of the department.

CHEMICAL ENGINEERING

FLOYD ELBA ROWLAND, Ph.D., Professor of Industrial Chemistry.

Chemical Engineering has become a necessary science in the economic management of many of the industries of life. The present need in this country to create new industries to supply products of manufacture formerly imported from abroad, has emphasized the demands upon chemistry and chemical engineering.

The curriculum in Chemical Engineering is arranged so that attention is given to the fundamental principles of chemistry. Thorough courses are given in General, Analytical, Organic, and Physical Chemistry. Physics, Mathematics, and Mechanical and Electrical Engineering are also emphasized. During the course specialized work in Applied Chemistry is taken.

The courses in Industrial or Applied Chemistry given in connection with Chemical Engineering are arranged as follows: (1) Engineering Chemistry (one course); (2) Industrial Inorganic Chemistry (two courses); (3) Industrial Organic Chemistry (two courses); (4) Electrochemical Industries (one course). After performing a limited number of standard experiments in Industrial Chemistry, the student is permitted to select special problems, pertaining, for the most part, to the Northwest, thus enabling him to follow a given line more fully. Problems are studied as to (1) Raw Materials; their valuation and treatment. (2) Process; chemical control and types of apparatus employed in chemical work. (3) Products of Manufacture; their purity and uses. Methods of analysis and the processes involved in large-scale manufacture are studied as described in current literature.

Local chemical industries are visited for the purpose of observing operation on a practical scale. Companies engaged in this work have been most generous in their cooperation.

There is a great need in the West for chemical engineers to help develop the vast resources. For this reason graduates are strongly advised to take advanced work and to extend their knowledge along chosen lines of research so that they may be better fitted to attack problems on their own responsibility.

Admission. Detailed statements of entrance requirements, routine of registration, etc., are given in the special bulletin on "General Information," which is furnished on application. Applicants for admission to the degree curriculum in Chemical Engineering must be at least 16 years of age and must have completed 15 units of work in a secondary school recognized as standard, these units to include

at least 3 units of English, and 1 unit each of Elementary Algebra and Plane Geometry, together with 5 additional units of English, Mathematics, Foreign Languages, Laboratory Sciences, and History (including Civics).

DEGREE CURRICULUM IN CHEMICAL ENGINEERING

B.S. Degree

Freshman Year

| | Term | | |
|---|------------------------|------------------------|------------------------|
| | 1st | 2d | 3d |
| Chemical Engineering Survey (ChE 101, 102, 103)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| General Chemistry (Ch 104, 105, 106), Qualitative Analysis (Ch 131) | 5 | 5 | 5 |
| Engineering Physics (Ph 111, 112, 113)..... | 3 | 3 | 3 |
| Plane Trigonometry (Mth 111), Elementary Analysis (Mth 131, 132) | 4 | 4 | 4 |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| Gymnasium (PEM 111, 112, 113)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 2 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Sophomore Year

| | | | |
|---|------------------------|------------------------|------------------------|
| Qualitative (Ch 233), Quantitative Analysis (Ch 244, 245) | 5 | 5 | 5 |
| Crystallography (G 214)..... | 3 | --- | --- |
| Mineralogy (G 215)..... | --- | 3 | --- |
| Advanced Engineering Physics (Ph 210)..... | --- | --- | 3 |
| Differential Calculus (Mth 251), Integral Calculus (Mth 252, 253) | 4 | 4 | 4 |
| Elementary German (ML 131, 132, 133)..... | 3 | 3 | 3 |
| Gymnasium (PEM 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 2 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Junior Year

| | | | |
|--|----------|----------|----------|
| Engineering Chemistry (ChE 311)..... | 5 | --- | --- |
| Industrial Inorganic Chemistry (ChE 321, 322)..... | --- | 5 | 5 |
| Organic Chemistry (Ch 226, 227), Organic Analysis (Ch 328) | 5 | 5 | 5 |
| Materials of Engineering (MM 311)..... | 3 | --- | --- |
| Hydraulic Laboratory (CE 348)..... | --- | 3 | --- |
| Power Laboratory (ME 331)..... | --- | --- | 3 |
| Electives | 4 | 4 | 4 |
| | <hr/> 17 | <hr/> 17 | <hr/> 17 |

Senior Year

| | 1st | Term | |
|--|------|------|------|
| | | 2d | 3d |
| Industrial Organic Chemistry (ChE 431, 432)..... | 5 | 5 | .... |
| Electrochemical Industries (ChE 441)..... | .... | .... | 5 |
| Physical Chemistry (Ch 481, 482, 483)..... | 3 | 3 | 3 |
| Technical Electricity (EE 251)..... | 3 | .... | .... |
| Electrical Machinery (EE 252)..... | .... | 3 | .... |
| Metallography and Pyrometry (MM 481)..... | .... | .... | 3 |
| Introduction to Economics (ES 391)..... | 3 | .... | .... |
| National Government (PS 301), or State and Local Government (PE 302)..... | .... | 3 | .... |
| Business Organization (BA 331)..... | .... | .... | 3 |
| Electives | 3 | 3 | 3 |
| | 17 | 17 | 17 |

COURSES

ChE 101 102, 103. **Chemical Engineering Survey.** A course of lectures for freshmen in Chemical Engineering. The course is designed to broaden the students' point of view and to bring them in closer relation with the department. The lectures include a study of great chemists, and the important chemical industries.

Required in Chemical Engineering; freshman year; three terms; 1 lecture; $\frac{1}{2}$ credit each term. *F. E. Rowland*

ChE 311. **Engineering Chemistry.** A course of lectures and laboratory work on the subjects of fuel, combustion, refractories, lubricants, boiler feed waters, iron, steel, alloys, cements.

Required in Chemical Engineering; junior year; first term; 5 credits; 2 lectures; 3 three-hour laboratory periods. Fee \$7.50. Deposit \$2.50. *F. E. Rowland*

ChE 321, 322. **Industrial Inorganic Chemistry.** The principal inorganic industries studied in lectures and in the laboratory from the standpoint of modern scientific and applied Chemistry. The laboratory instruction is arranged to develop ability on the part of the student to carry on independent work with confidence. The principles involved in the problems are carefully studied before the laboratory manipulation is attempted.

Required in Chemical Engineering; junior year; second and third terms; 5 credits each term; 2 lecture periods; 3 three-hour laboratory periods. Fee \$7.50 each term. Deposit \$2.50 each term.

F. E. Rowland

ChE 431, 432. **Industrial Organic Chemistry.** Lectures and laboratory work covering the chief organic branches of industrial chemistry. Emphasis is given to the fundamental principles involved in

the various processes studied. The topics studied include: mineral, vegetable, and animal oils; soap; glycerine; rubber; leather; explosives; sugar; starches; destruction distillation of coal and wood

Required in Chemical Engineering; senior year; first and second terms; 5 credits each term; 2 lectures; 3 three-hour laboratory periods. Fee \$7.50 each term. Deposit \$2.50 each term.

F. E. Rowland

ChE 441. **Electrochemical Industries.** Application of the electric current to the manufacture of chemical materials by electrolytic and electrothermal methods. In the lectures and laboratory work the following topics are treated: sodium hydroxide and chlorine, hypochlorites, chlorates, perchlorates, oxygen, hydrogen, carbide, graphite, carbon disulfide, phosphorus, sodium, magnesium, aluminum.

Required in Chemical Engineering; senior year; third term; 5 credits; 2 lectures; 3 three-hour laboratory periods. Fee \$7.50. Deposit \$2.50.

F. E. Rowland

INDUSTRIAL JOURNALISM

FRANCIS LAWRENCE SNOW, Professor of Industrial Journalism.

CHARLES JARVIS MCINTOSH, Assistant Professor of Industrial Journalism; Agricultural Press Editor.

HOMER LEE ROBERTS, Student Assistant in Industrial Journalism.

Courses in Industrial Journalism are offered to train students to write and edit material on various subjects embraced within the distinctive field of the College, such as Agriculture, Engineering, Forestry, Mining, Home Economics, and the like; to enable them to take positions on farm and trade papers, and other publications, especially where writing on industrial subjects is required; to conduct campus publications and other publications of a technical nature; and to furnish scientific material in popular form to the papers.

These courses are intended to meet the needs of a large group of persons—farmers, county agricultural agents, home demonstration agents, field specialists in the agricultural extension service, research specialists at the agricultural experiment stations, teachers of industrial subjects, and others who may have occasion to prepare material for the press on industrial subjects.

The courses taught are thoroughly practical and form a valuable asset for those who aim to become leaders of community enterprises through the press and in any other capacity for which their technical training fits them. Industrial Journalism does not displace fundamental work in English but supplements it by giving the technique of journalistic writing.

COURSES

IJ 200. Elementary Industrial Journalism. Intended primarily to give students the fundamental principles of news writing. Prepares them for writing technical articles on subjects pertaining to Agriculture, Home Economics, Engineering, etc. Required as a condition of eligibility for leading positions on the staffs of student publications.

Elective: sophomore, junior, or senior year; any term; 3 credits. Fee \$1.00. Text: Spencer, News Writing. *F. L. Snow*

IJ 204. Journalism Practice I. IJ 204, 314, and 334 constitute laboratory practice for courses IJ 200, 310, 330 respectively. Opportunity is given to put the fundamental principles of journalism into practice. In IJ 204 and 314, "beats" are assigned and students receive practical experience in reporting. Special assignments are also given. Students are expected to write for publication. These courses offer students the advantages of training and experience in connection with instruction in corresponding courses.

Elective; 2 credits. Fee \$1.00.

F. L. Snow

IJ 310. **Industrial Journalism.** Continuation of work in course IJ 200. Principles of journalism are applied to the treatment of industrial subjects. Types of news stories are studied, feature stories being given special consideration.

Prerequisite: IJ 200. Elective; junior or senior year; second term; 3 credits; 3 lecture periods. Fee \$1.00.

F. L. Snow

IJ 314. **Journalism Practice II.** See IJ 204. Accompanies IJ 310.

Elective; junior or senior year; second term; 2 credits. Fee \$1.00.

F. L. Snow

IJ 320. **Editing.** Copy reading, head writing, proof reading, and make-up. Actual experience is given in editing copy for publication. Training is offered that fits students for the work of putting out campus publications.

Prerequisites: IJ 200, 310. Elective; junior or senior year; third term; 3 credits; 3 lecture periods. Fee \$1.00.

C. J. McIntosh

IJ 330. **Technical Journalism.** Students are required to prepare copy on subjects pertaining to Agriculture, Engineering, Commerce, Home Economics, etc., and to submit it for publication in farm journals, trade journals, and other periodicals. A study is made of the demands of these publications for material of a more or less technical nature. Attention is given to illustration. Preparation of publicity matter is considered.

Elective, junior or senior year; third term; 3 credits; 3 lecture periods. Fee \$1.00.

F. L. Snow

IJ 334. **Journalism Practice III.** See IJ 204. Accompanies IJ 330.

Elective; junior or senior year; third term; 2 credits. Fee \$1.00.

F. L. Snow

IJ 440. **Editorial Writing.** Materials, style, and arrangement of periodical editorials are considered. Training is given in writing editorials. Principles of policy and ethics are studied and applied. The make-up of the editorial page of farm and trade journals is given attention.

Prerequisite: IJ 320. Elective; senior year; first term; 3 credits; 3 lecture periods. Fee \$1.00.

C. J. McIntosh

LIBRARY

LUCY MAY LEWIS, A.B., B.L.S., Librarian.
LILLIAN MABEL GEORGE, B.S., A.B., B.L.S., Continuations Librarian.
NELLE BRANCH, A.B., B.L.S., Reference Librarian.
ELIZABETH RITCHIE, A.B., B.L.S., Cataloguer.
BERTHA HERSE, B.S., in charge of Periodicals and Binding.
ELIZABETH PALM, B.S., Head of Circulation Department.
EDITH HAGUE, A.B., B.L.S., Continuations Assistant.
ETHEL ALLEN, B.S., Assistant.
HELEN GARDNER, B.S., Circulation Assistant.
LAUREL CANNING, A.B., Circulation Assistant.
ELZIE VANCE HERBERT, Order Clerk and Stenographer.

Equipment. The library is housed in a beautiful new building well adapted to library uses. The reading and general reference room is large and well-lighted, extending entirely across the building. It is supplied with over 600 leading magazines and newspapers. The books of the library consist of about 42,500 volumes of works of history, biography, engineering, agriculture, natural science, general literature and reference, about 3,000 reports and other publications from the agricultural colleges and experiment stations of all the states, with about 169,011 bulletins and pamphlets. The library is a designated depository of United States Government publications, of which it has about 8,000 volumes. Over 2,000 of these were received as a gift from the library of the late United States Senator Dolph.

Practical use of the books has led to the establishment of small laboratory collections kept in the rooms of the following departments: General Chemistry, Agricultural Chemistry, Animal Husbandry, Agronomy, Horticulture, Botany, Forestry, Bacteriology, Zoology, Pharmacy, Commerce, and Civil, Chemical, Mechanical, Electrical, and Mining Engineering. Each department library is in charge of the head of the department, to whom application must be made for use of the books.

All books are classified and catalogued according to the Dewey decimal system.

Books may be drawn for home use by all officers and students of the College. Books may be kept by the students for two weeks with the privilege of a renewal, and by officers for any reasonable time. Seniors and graduate students may have access to the shelves for special study if recommended to the Librarian by the head of the department under whom they are studying.

The reference collection is located in the reading and reference room and consists of encyclopedias, dictionaries, standard reference books in the different departments of study, and bound files of general, literary, and economic periodicals. A collection of books for cultural reading is also kept in the reading room.

The continuations collection is a technical reference collection of the publications of the United States and foreign governments, and the states of the United States, of colleges, and learned societies, and other material appearing in numbered series at irregular intervals. Duplicates of the most-used material are kept for circulation and for class reserve work.

The technical periodical reference room, on the first floor, includes bound sets of technical periodicals numbering about 2,100 volumes, and the continuations collection.

Catalogues. The library maintains in the reading room a general catalogue of all library books on the campus. This is arranged alphabetically by author, title, and subject. There is also a card catalogue of the publications of the United States Department of Agriculture arranged in the same manner, and a card index to the publications of the state experiment stations, which is a subject catalogue.

COURSE

Lib 100. **Library Practice.** This course is designed to give instruction in practical use of library catalogues and reference books, by lectures and practical problems requiring the students to use the various indexes, statistical books, encyclopedias, and special reference books. Each student is required to prepare a bibliography of at least twenty-five references on some practical subject.

Required in degree curricula; freshman year; any term; 1 credit; 1 lecture; 1 recitation; 1 one-hour laboratory period.

Lucy M. Lewis, Nelle U. Branch, Lillian M. George

MILITARY SCIENCE AND TACTICS

- LIEUTENANT-COLONEL JOSEPH KEPNER PARTELLO, Infantry, United States Army, Professor of Military Science and Tactics; Commandant of Cadets, R. O. T. C.
- MAJOR WILLIAM FLETCHER SHARP, Field Artillery, United States Army, Assistant Professor of Military Science and Tactics. In charge of Field Artillery Unit, R. O. T. C.
- MAJOR CUSHMAN HARTWELL, Cavalry, United States Army, Assistant Professor of Military Science and Tactics. In charge of Cavalry Unit, R. O. T. C.
- MAJOR MORRIS JOSEPH HERBERT, Philippine Scouts, Retired, Assistant Professor of Military Science and Tactics. Acting Quartermaster and Personnel Adjutant, R. O. T. C.
- MAJOR BRUCE BRADFORD BUTTLER, United States Infantry, Retired, Assistant Professor of Military Science and Tactics. In charge of Infantry Unit, R. O. T. C.
- CAPTAIN PATRICK HENRY TANSEY, Corps of Engineers, United States Army, Assistant Professor of Military Science and Tactics. In charge of Engineer Unit and Adjutant, R. O. T. C.
- CAPTAIN ADLAI CYRUS YOUNG, Infantry, United States Army, Assistant Professor of Military Science and Tactics. With Infantry Unit, R. O. T. C.
- CAPTAIN LEO LEFTWICH PARTLOW, Field Artillery, United States Army, Assistant Professor of Military Science and Tactics. With Field Artillery Unit, R. O. T. C.
- CAPTAIN JOHN EDWIN SELBY, Cavalry, United States Army, Assistant Professor of Military Science and Tactics. With Cavalry Unit, R. O. T. C.
- CAPTAIN ARCADY GLUCKMAN, Infantry, United States Army, Assistant Professor of Military Science and Tactics. With Infantry Unit, R. O. T. C.
- CAPTAIN LEE CARD, Infantry, United States Army. In charge of Motor Transport Unit, R. O. T. C.
- CAPTAIN MAYLON EDWARD SCOTT, Field Artillery, United States Army, Assistant Professor of Military Science and Tactics. With Field Artillery Unit, R. O. T. C.
- FIRST LIEUTENANT WINFIELD CHAPPLE SCOTT, Cavalry, United States Army, Assistant Professor of Military Science and Tactics. With Cavalry Unit, R. O. T. C.
- FIRST LIEUTENANT OTTO MOLLER, Corps of Engineers, United States Army, Assistant Professor of Military Science and Tactics. With Engineer Unit, R. O. T. C. Warrant Officer, United States Army.

- CAPTAIN DENIS HAYES, Adjutant General's Department, Officers' Reserve Corps, United States Army, Assistant to Professor of Military Science and Tactics. Assistant to Acting Quartermaster, R. O. T. C. Master Sergeant, United States Army, Retired).
- CAPTAIN HERBERT SPEAR, Engineer Section, Officers' Reserve Corps, United States Army, Assistant to Professor of Military Science and Tactics. With Engineer Unit, R. O. T. C. (Master Sergeant, D.E.M.L., United States Army).
- CAPTAIN ANTHONY SCHMITZ, Cavalry Section, Officers' Reserve Corps, United States Army, Assistant to Professor of Military Science and Tactics. With Cavalry Unit, R. O. T. C. (First Sergeant, D.E.M.L., United States Army).
- CAPTAIN THOMAS ROSS JARBOE, Infantry Section, Officers' Reserve Corps, United States Army, Assistant to Professor of Military Science and Tactics. Assistant to Personnel Adjutant, R. O. T. C. (Sergeant, D.E.M.L., United States Army).
- MASTER SERGEANT FRANK GEORGE HUNTER, D.E.M.L., United States Army, Assistant to Professor of Military Science and Tactics. Supply Sergeant, R. O. T. C.
- FIRST SERGEANT JOHN HARSH, JR., D.E.M.L., United States Army, Assistant to Professor of Military Science and Tactics. With Field Artillery Unit, R. O. T. C.
- SERGEANT BERT DUNHAM, D.E.M.L., United States Army, Assistant to Professor of Military Science and Tactics. With Field Artillery Unit, R. O. T. C.
- SERGEANT HERBERT CROCKER, D.E.M.L., United States Army, Assistant to Professor of Military Science and Tactics. With Cavalry Unit, R. O. T. C.
- SERGEANT HENRY BERNIUS, D.E.M.L., United States Army, Assistant to Professor of Military Science and Tactics. With Field Artillery Unit, R. O. T. C.
- SERGEANT CHRIST THORP, D.E.M.L., United States Army, Assistant to Professor of Military Science and Tactics. Motor Transport Corps Unit, R. O. T. C.
- SERGEANT ALBERT BAKER, D.E.M.L., United States Army, Assistant to Professor of Military Science and Tactics. With Infantry Unit, R. O. T. C.
- SERGEANT STEPHEN SPENCE, D.E.M.L., United States Army, Assistant to Professor of Military Science and Tactics. With Cavalry Unit, R. O. T. C.
- SERGEANT CHARLES GALE, D.E.M.L., United States Army, Assistant to Professor of Military Science and Tactics. With Field Artillery Unit, R. O. T. C.

SERGEANT EUGENE LOSSETT, D.E.M.L., United States Army, Assistant to Professor of Military Science and Tactics. With Infantry Unit, R. O. T. C.

SERGEANT MORRIS WELSON, D.E.M.L., United States Army, Assistant to Professor of Military Science and Tactics. Assistant to Acting Quartermaster, R. O. T. C.

SERGEANT CLARENCE WOODBURY, D.E.M.L., United States Army, Assistant to Professor of Military Science and Tactics. With Infantry Unit, R. O. T. C.

SERGEANT EDWARD MACMANUS, United States Army, Assistant to Professor of Military Science and Tactics; with Field Artillery Unit, R. O. T. C.

PRIVATE FIRST CLASS MCKINLEY WEST, United States Army, Assistant to Professor of Military Science and Tactics; in Adjutant's Office.

The Act of Congress establishing the Agricultural and Mechanical colleges was passed in the midst of the Civil War; it inaugurated the cadet corps and required military training of all able-bodied male students. The object of this requirement was to provide well-trained officers for citizen soldiers. The Act was supplemented on June 3, 1916, by another Act of Congress, passed in the midst of the World War, establishing the Reserve Officers Training Corps. The object of the Corps is "to qualify students, by systematic and standard training methods, to be commissioned in the Officers Reserve Corps so that in time of national emergency, trained men, graduates of the College, may lead the units of the large armies on which the safety of the country will depend."

A Distinguished Institution. By order of the War Department, as a result of comparative inspection, the Oregon Agricultural College has been designated a Distinguished Institution in respect to its military training. This distinction places it in the class with such institutions as Harvard and Yale, and the great land-grant colleges such as the universities of Illinois, Wisconsin, Minnesota, and California.

R. O. T. C. Basic and Advanced Courses. In the fall of 1917 the War Department established at the Oregon Agricultural College both a Basic Course and an Advanced Course, Senior Division, in the Reserve Officers' Training Corps. The Basic Course covers the first two years of the college military training, enrolling physically fit men of the freshman and sophomore years except those who may be excused for cause by the College authorities. The Advanced Course comprises the third and fourth years of college military training, enrolling those men who have completed the Basic Course and

who have shown proper interest and aptitude for the training and who are specially selected for further training in advanced work. Once enrolled in the Advanced Course, students are required to continue it throughout the remaining period of their undergraduate course. This obligation does not prevent them from severing their connection with the College, however, if their interests or desires prompt them to leave the institution either temporarily or permanently.

Five Branches of Training. Five branches of military training are offered at the College to qualified students of the R. O. T. C.: Infantry, Cavalry, Motor Transport, Engineers, and Field Artillery. In addition an excellent R. O. T. C. cadet band offers instruction in band practice. These several branches of training are each carried through four years of the college course and are open to students qualified to take them. In so far as is possible students are permitted to elect the particular branch of training they desire to take up. This election of branches, however, is subject to the percentage limitations on the enrollments in the different units as imposed by the War Department. The Infantry unit and the Cavalry unit are open to all students; the Motor Transport Unit is open to students in the Automotive and Mechanical Engineering departments; the Engineer unit and the Field Artillery unit are open to students of any of the Engineering departments in the College. After the prescribed limit has been reached in any unit, students must be assigned to one of the remaining units. Students already enrolled in a unit are required to continue in that unit throughout the remainder of their course of training in the department of Military Science and Tactics. The training in all units corresponds to that for like units in the Regular Army.

Uniforms Provided by the Government. All members of R. O. T. C. units at this institution are provided by the United States Government with complete military uniforms including coat, breeches, cap, leggins, flannel shirt, and belt. These articles are issued to students free of charge and must be returned at the end of the college year or whenever a student severs his connection with the Military department of the College. To protect the College against financial loss from failure to return uniforms, a deposit in a sum to be determined will be required from each student enrolled in the R. O. T. C., this deposit to be returned to the student when uniform and equipment are returned to the Military department.

Commutation of Subsistence. Selected members of the Advanced Course (junior and senior years) of the R. O. T. C., who sign a special contract agreeing to certain conditions, including

attendance at summer camps, are paid a cash commutation of subsistence (board) by the National Government at a certain rate per month throughout their entire two remaining academic years, including the vacation period between these years, while they are pursuing the Advanced Course. This amount varies according to the Government standard ration. During the past year the commutation paid students averaged about \$15.90 a month, but will probably be less for the year 1921-22, as the cost of living is reduced.

Benefits to Students Enrolling in the R. O. T. C. (a) A thorough military education which will fit students upon completion of the four-year course to render patriotic service to the nation in time of war as troop leaders and officers of the United States Reserves.

(b) A thorough and searching physical examination upon entrance to the R. O. T. C.

(c) A maximum of thirty (30) college credits which count toward a degree on graduation.

(d) A well disciplined body and mind and a knowledge of how to serve and where service can best be rendered.

(e) A complete new uniform of Government clothing, consisting of cap, flannel shirt, breeches, coat, and leggings. One such uniform is issued each student free each year.

(f) The free use of the latest model and very finest equipment of Infantry, Cavalry, Field Artillery, Engineers, and Motor Transport (including text-books) issued to this institution by the Government. The value of the Government equipment now on hand at the College is approximately a half million dollars.

(g) Generous and free allowance of both indoor and outdoor rifle ammunition for target practice, with expert instructors and the free use of rifles, target equipment, ranges, etc.

(h) Commutation of subsistence to all students who have completed the two-year basic course of the R. O. T. C. at the rate of \$15.90 a month (this amount subject to change), including months of the summer vacation. All R. O. T. C. students who have completed the two-year basic course are eligible to draw this money, the only additional requirement being that they agree to attend the R. O. T. C. summer training camp of six weeks' duration usually held in June and July of each year. During their junior and senior years (including camp pay at one dollar a day in addition to all expenses), students may thus **receive as commutation** a total sum of approximately \$378.90 in cash. This in addition to uniforms and all other allowances specified.

(i) The privilege of attending summer camps (in the nature of a vacation) without expense of any kind. Summer camps last year were held at the following locations: Infantry Unit, Camp Lewis, Washington; Field Artillery Unit, Camp Knox, Louisville, Kentucky; Engineer Unit, Camp Humphreys, Virginia (near Washington, D. C); Cavalry Unit, Monterey, California; Motor Transport Unit, San Francisco, California. Students attending these camps, in addition to contact with college men from all over the United States, have their entire expenses paid, including transportation, sleeping car accommodations, and an allowance of approximately \$3.00 a day for meals while enroute both ways, an additional complete uniform upon arrival at camp; board, lodging, medical and dental treatment while at camp; \$1.00 a day in cash to those students pursuing the advanced camp course of instruction; a thorough physical examination; an abundance of healthy, recreational amusement and diversion; excellent social attractions carefully supervised; and last, but not least, a course in military instruction of the very highest type and given by specially selected officers who are experts in their particular lines.

(j) A commission as a Second Lieutenant in the Officers' Reserve Corps of the United States Army upon successful completion of the four-year course.

(k) The selection of an honor graduate each year (distinguished colleges only, such as is O. A. C. this year) for permanent appointment in the Regular Army of the United States, no further mental examination being required.

(l) For those desiring training as a musician in the R. O. T. C. Cadet Band, all instruments being furnished by the Government free of charge.

(m) Appointment as cadet officers and non-commissioned officers, making for student prestige in cadet organizations and on campus generally.

(n) Choice, within certain limits, of training for officers in either the Infantry, Field Artillery, Engineers, Cavalry, or Motor Transport Corps.

(o) Active competition with other universities and colleges maintaining units of the R. O. T. C. in rifle shooting, polo, exhibition drills, etc. Competitions to be held by sending representative teams to these institutions, etc.

The Officers' Reserve Training Corps is organized under authority of the Act of Congress of June 3, 1916, as amended by the acts of September 8, 1916, and July 9, 1918.

The primary object of the R. O. T. C. is to provide systematic military training at civil educational institutions for the purpose of qualifying selected students of such institutions as reserve officers in the military forces of the United States. It is intended to attain this object during the time that students are pursuing their general or professional studies with the least practicable interference with their civil careers, by employing methods designed to fit men physically, mentally, and morally for pursuits of peace as well as pursuits of war. It is believed that such military training will aid greatly in the development of better citizens. It should be the aim of educational institutions to maintain one or more units of the Reserve Officers' Training Corps in order that in time of national emergency there may be instantly available a large number of educated men physically efficient, trained in the fundamentals of military science and tactics, and fitted to lead intelligently the units of the armies upon which the safety of the country will depend. The extent to which this object is accomplished will be the measure of the success of the Reserve Officers' Training Corps.

The Reserve Officers' Training Corps will enrich the educational resources of schools and colleges by contributing new problems, applications, and equipment. This work will not only vitalize the course of study but give to the student a training which will be as valuable to him in his industrial or professional career as it would be should the nation call upon him to act as a leader in its defensive forces.

Moreover, the wide variety of work recognized and accepted by the War Department as of intrinsic value for military purposes should leave on the mind of the student an indelible impression of the extent to which the modern army is the nation in arms. Commerce, industry, agriculture, and all the professions have each their contribution to make to the military organization.

A military unit is largely dependent for its efficiency upon the physical fitness of the individuals composing it. Physical training, therefore, forms an essential part of the military instruction. It is the policy to encourage and support the physical training given by the civilian teachers, thus cooperating with all other effective agencies in an effort to promote a more vigorous American manhood.

The policy adopted by the War Department to carry out the provisions of the Act of Congress of June 3, 1916, is a matter of vital importance to every citizen interested in the educational system of our country and the development of American youth. It will aim to give all students of the Reserve Officers' Training Corps, a thorough physical training, to inculcate in them a respect for all lawful authority, to teach the fundamentals of the military profession,

leadership, and the special knowledge required to enable them to serve efficiently in the various branches of the military service.

Summer Training Camps. The summer training camps, which are held all over the United States, are designed to bring together, for a six-week course of intensive training in the field, the R. O. T. C. units of the different colleges of the country. Students of the Infantry Unit report to Camp Lewis, Wash.; those of the Engineer Unit, to Camp Humphreys, Va.; those of the Field Artillery Unit, to Camp Knox, Ky.; those of the Motor Transport Unit, to the Presidio, San Francisco, Cal.; those of the Cavalry Unit, to the Presidio, Monterey, Cal. Members of the Basic Course of each unit should attend one summer camp. Members of the Advanced Course are required to attend the advanced camp held between the junior and senior years. Every student who completes the full four-year course of training should therefore have attended at least two summer camps, although attendance at but one, the Advanced camp, is required, the Basic camp being voluntary. This will insure his receiving a commission in the Officers' Reserve Corps of the United States Army upon graduation, provided he is otherwise qualified. Students incur no expense in attending these military camps, as the United States Government pays all traveling expenses to and from the camp and also living expenses including board, lodging, clothing, and equipment while at the camp. Excellent facilities exist at each camp for adequate recreation and wholesome diversion.

Requirements. Four hours of military instruction each week are required for all men students in the two years of the Basic Course and five hours each week in the two years of the Advanced Course. The wearing of the military uniform is required during hours set apart for military instruction. All members of the Military department are required to protect from loss or damage the clothing, arms, and equipment issued to them by the United States Government through the Military department of the College.

Military Credits for Graduation. A minimum of 12 credits in Military Science are required of all men for graduation. This comprises 6 credits for each of the first two years' basic work. Nine credits are given for the work of both senior and junior years, which is entirely voluntary. This makes a total of 30 credits for the entire R. O. T. C. work. If a student does not secure 12 credits in his first two years, he must continue his military work until this has been accomplished.

Adjustment of Credits. Students transferring to the Oregon Agricultural College with advanced credits from other educational

institutions of equal rank will not be exempt from the military requirement but will be required to offer an equivalent of credits for the back military credits represented and accumulated. Students presenting credentials for military work taken at other educational institutions or for service in the U. S. Army, Navy, or Marine Corps may be given credit for such work in so far as it is deemed equivalent to the requirements of this institution. If for any reason a student is relieved from the military requirements, other credits must be substituted for the military credits.

Cadet Officers. The cadet officers and non-commissioned officers are selected at the beginning of each college year by the Commandant with the approval of the President of the College. Their appointment and promotion, together with their relative rank and standard in each grade, are determined on a basis of individual efficiency and merit. Cadet commissioned officers are selected from the senior class, sergeants and higher non-commissioned officers from the junior class, and corporals from the sophomore class. The traditions of the College have made it a high honor to stand well in the Military department and the student commanders of the different R. O. T. C. units have invariably been men of superior attainments and character.

Equipment. The Military department has a thoroughly modern and up-to-date equipment for its work, furnished by the National Government and valued considerably in excess of half a million dollars. The Armory is one of the largest and finest in the country and affords ample space for the military staff, arms room, assembly hall, and for military instruction in rainy weather. The War Department has detailed to the College, thirteen Army officers of the regular service, eighteen non-commissioned officers, and approximately fifty-five privates. In addition, ninety artillery and cavalry horses and four mules are supplied; together with motor transportation; Field Artillery big guns; motorized repair shop; ammunition wagon; Infantry, Field Artillery, Engineering, Motor Transport, and Cavalry equipment.

The Infantry equipment comprises new and latest pattern Springfield rifles, twelve hundred in number; twelve hundred Infantry field packs and equipment complete; four Browning machine guns; four Browning automatic rifles; one Stoke's mortar; one 37-mm. gun with all related equipment; hand and rifle grenades for instruction purposes; automatic caliber .45 pistols; twelve hundred shelter tents; approximately 100,000 rounds of rifle ammunition, together with a generous allowance of gallery, blank, pistol and dummy ammunition supplied for instruction in rifle firing. No charge is made for ammunition or other military supplies used by students. A modern

up-to-date target range is available for target practice for all members of the R. O. T. C.

The Field Artillery Unit has a five-section battery of American three-inch guns complete. It also has one 155-mm. G. P. F. rifle, one 155-mm. howitzer Schneider, one 4.7-inch rifle, and one French, one British, and one American 75-mm. gun. For transport, there are provided ninety horses, draft and riding; four mules, draft. Complete artillery harness for Artillery gun carriages, two 5-ton caterpillar tractors, two motorcycles with side cars, two F. W. D. ammunition trucks, one White reconnaissance car, one Dodge five-passenger car, one Artillery repair truck with tools valued at \$20,000.00, lathes, generators, welding outfits, etc. Besides these there are fire-control instruments, radio, telephones, range finders, and every device furnished and developed for Field Artillery during the World War.

The Engineer Unit equipment includes eight transits, eight levels, four plane tables, sixteen Philadelphia rods, twenty-four stadia boards, hand levels, compasses, sliding rules, steel tapes, and ninety-six sets complete of standard sketching equipment for the making of military maps. It has also several sets of models illustrating various features of military engineering operations, such as pontoon bridges, barbed-wire entanglements, dugouts, relief of a completely fortified position, etc. Complete sets of maps for the solution of map reading and minor tactical problems are available.

The Motor Transport Corps Unit has a complete modern equipment for instruction in elementary automotive engineering, field operations, convoy practice, and shop work. The members of this unit are armed with the new Army Springfield rifle and in addition are taught the use of the motor equipment supplied. This equipment is as follows: one Cadillac touring car; one Dodge touring car; one Harley Davidson motorcycle (side car); one Indian motorcycle (solo); one Mack truck; three class "B" trucks; one Riker truck; two G. M. C. trucks; two Dodge light repair trucks; and one White truck.

The Cavalry Unit uses the Government horses on hand jointly with the Field Artillery Unit. Seventy-four sets of the new regulation cavalry equipment of the latest army pattern are available. This equipment includes McClellan saddles, saddle blankets, saddle pockets, bit and bridoon bridles, halters, etc. The members of this unit are equipped with latest pattern Springfield rifles, caliber .45, automatic pistols, and latest model cavalry sabers.

Military Fraternity. A chapter of the national military fraternity, "Scabbard and Blade," was installed on the campus during the spring of 1920. Membership is limited to those members of the Mili-

tary department who have exhibited particular qualities of excellence in manhood, scholarship, military attainment, and academic standing, and in the prerequisites of a gentleman and of a patriotic citizen.

Degree Curriculum. Besides the Basic Course, which is compulsory, and the Advanced Course, which is elective, there is also offered a degree curriculum in Military Science and Tactics, with majors in Infantry, Field Artillery, Motor Transport, Cavalry, and Military Engineering, and leading to the degree of Bachelor of Science.

The military work of this curriculum comprises the Basic and the Advanced courses and six additional credits to be gained by submitting a thesis each term during the junior and senior years. The rest of the work is made up of subjects selected from courses offered in various schools of the College.

This Curriculum is designed to prepare men for appointment as second lieutenant in the Regular Army. There are about 4,000 vacancies now in the grade of second lieutenant, and more will occur annually. Military authorities estimate that the United States Military Academy at West Point cannot possibly supply more than one-third of these annual vacancies. Hence the man especially trained, both by contact with the technical fields in which this institution affords instruction, and in the military and cultural subjects that help to fit a man for the duties of an officer, will be particularly qualified to receive such appointment. Existing legislation, moreover, provides that members of the Officers' Reserve Corps may be commissioned in the Regular Army as needed, subject to examination. In addition to its attractions from the point of view of leading directly to appointments in the Regular Army, the curriculum affords an excellent foundation in citizenship.

This curriculum contains the commutation feature in the junior and senior years, and all the other benefits of the Basic and Advanced courses.

Students enrolling as candidates for a degree in Military Science and Tactics are required in their junior and senior years: (1) to subscribe for one of the general service papers; (2) to subscribe for the technical periodical pertaining to their chosen branch of service; (3) to subscribe to the mailing list of the General Service Schools at Ft. Leavenworth; (4) to join the service association of their branch of the service; (5) to submit in each term a thesis of not less than one thousand words upon an approved military subject. These theses are not necessarily the result of original investigation and research on the part of the student, but will require outside reading and compilation of data from the periodicals and books available.

DEGREE CURRICULUM IN MILITARY SCIENCE AND TACTICS

B.S. Degree

INFANTRY, FIELD ARTILLERY, MOTOR TRANSPORT, CAVALRY

Freshman Year

| | 1st | Term 2d | 3d |
|--|------------------------|------------------------|------------------------|
| Military Science and Tactics (MS 111, 112, 113, or 121, 122, 123, or 131, 132, 133, or 151, 152, 153).... | 2 | 2 | 2 |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| French, Spanish, or German..... | 3 | 3 | 3 |
| General Chemistry (Ch 101, 102, 103)..... | 3 | 3 | 3 |
| Plane Trigonometry (Mth 111), Elementary Analysis (Mth 131, 132)..... | 4 | 4 | 4 |
| Library Practice (Lib 100)..... | 1 | --- | --- |
| Gymnasium (PEm 111, 112, 113)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Approved electives | 1 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Sophomore Year

| | | | |
|--|------------------------|------------------------|------------------------|
| Military Science and Tactics (MS 211, 212, 213, or 221, 222, 223, or 231, 232, 233, or 251, 252, 253).... | 2 | 2 | 2 |
| Modern Languages (continued from freshman year) | 3 | 3 | 3 |
| European History I, II (Hst 212, 213), Recent His- tory of the United States (Hst 126)..... | 3 | 3 | 3 |
| Engineering Physics (Ph 111, 112, 113)..... | 3 | 3 | 3 |
| Plane Surveying (CE 121, 122, 123)..... | 5 | 4 | 5 |
| Gymnasium (PEm 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Approved electives | 1 | 2 | 1 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Junior Year

| | | | |
|---|----------|----------|----------|
| Military Science and Tactics (MS 311, 312, 313, or 321, 322, 323, or 331, 332, 333, or 351, 352, 353)..... | 3 | 3 | 3 |
| Theses (on approved Military subjects)..... | 1 | 1 | 1 |
| English Literature (Eng 321, 322, 323)..... | 3 | 3 | 3 |
| Elementary Commercial Geography (ES 21)..... | --- | 3 | --- |
| Practice Teaching (PEM 361), Methods of Coaching Athletic Teams (PEM 232, 233)..... | 2 | 2 | 2 |
| Approved electives | 8 | 5 | 8 |
| | <hr/> 17 | <hr/> 17 | <hr/> 17 |

Senior Year

| | | | |
|--|-------|-------|-------|
| Military Science and Tactics (MS 411, 412, 413, or 421, 422, 423, or 431, 432, 433, or 451, 452, 453)..... | 3 | 3 | 3 |
| Theses (on approved Military subjects)..... | 1 | 1 | 1 |
| History of British Empire (Hst 411), History of South America (Hst 331), American Diplomatic History (Hst 421) | 3 | 3 | 3 |
| Electric Signalling (EE 433)..... | ..... | ..... | 3 |
| Comparative Governments (PS 401)..... | 4 | ..... | ..... |
| International Relations (PS 402)..... | ..... | 4 | ..... |
| Army Paper Work (BA 391)..... | ..... | 2 | ..... |
| Bookkeeping and Business Methods (BA 101)..... | ..... | ..... | 3 |
| Approved electives | 6 | 4 | 4 |
| | 17 | 17 | 17 |

MILITARY ENGINEERING

Freshman Year

| | 1st | Term 2d | 3d |
|---|---------------|---------------|---------------|
| Military Science and Tactics (MS 141, 142, 143)..... | 2 | 2 | 2 |
| Plane Surveying (CE 121, 122, 123)..... | 5 | 4 | 5 |
| Engineering Physics (Ph 111, 112, 113)..... | 3 | 3 | 3 |
| Engineering Drawing (CE 111, 112, 113)..... | 3 | 3 | 3 |
| Library Practice (Lib 100)..... | ..... | 1 | ..... |
| Plane Trigonometry (Mth 111), Elementary Analysis (Mth 131, 132)..... | 4 | 4 | 4 |
| Gymnasium (PEm 111, 112, 113)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |

Sophomore Year

| | 17½ | 17½ | 17½ |
|--|---------------|---------------|---------------|
| Military Science and Tactics (MS 241, 242, 243)..... | 2 | 2 | 2 |
| General Chemistry (Ch 101, 102, 103)..... | 3 | 3 | 3 |
| General Geology (G 202, 203)..... | ..... | 2 | 2 |
| Curves and Earthwork (CE 231)..... | 5 | ..... | ..... |
| Technical Electricity (EE 251)..... | ..... | 3 | ..... |
| Electrical Machinery (EE 252)..... | ..... | ..... | 3 |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| Differential Calculus (Mth 251), Integral Calculus (Mth 252, 253)..... | 4 | 4 | 4 |
| Gymnasium (PEm 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |

Junior Year

| | 17½ | 17½ | 17½ |
|---|-------|-------|-------|
| Military Science and Tactics (MS 341, 342, 343)..... | 3 | 3 | 3 |
| Hydrology (IE 232), Hydraulics (IE 316), Hydraulic Laboratory (IE 332)..... | 3 | 3 | 3 |
| Theses (on approved Military subjects)..... | 1 | 1 | 1 |
| Mechanics (MM 351, 352)..... | 3 | 3 | ..... |
| Strength of Materials (MM 353)..... | ..... | ..... | 3 |
| Roads and Pavements (HE 311, 312)..... | 2 | 3 | ..... |
| Sanitary Engineering (IE 323)..... | 3 | ..... | ..... |
| Masonry and Foundations (CE 341)..... | ..... | 3 | ..... |
| Structural Analysis (CE 353)..... | ..... | ..... | 3 |
| Army Paper Work (BA 391)..... | ..... | ..... | 3 |
| Approved electives | 2 | 1 | 1 |
| | 17 | 17 | 17 |

Senior Year

| | | | |
|--|------|------|------|
| Military Science and Tactics (MS 441, 442, 443)..... | 3 | 3 | 3 |
| Structural Engineering (CE 451, 452, 453)..... | 4 | 4 | 4 |
| Economics of Highway Construction (HE 416)..... | 3 | .... | .... |
| Theses (on approved Military subjects)..... | 1 | 1 | 1 |
| Public Health and Sanitation (IE 422)..... | .... | 3 | .... |
| National Government (PS 302)..... | .... | .... | 3 |
| Civil Engineering Seminar (CE 481, 482, 483)..... | 1 | .... | 1 |
| Municipal Water Supply (IE 411)..... | 4 | .... | .... |
| Contracts and Specifications (HE 427)..... | .... | 3 | .... |
| Irrigation Engineering (IE 414)..... | .... | .... | 3 |
| Elementary Commercial Geography (ES 21)..... | .... | 3 | .... |
| Approved electives | 1 | .... | 2 |
| | 17 | 17 | 17 |

COURSES

The periods indicated in each course are exclusive of the time required for outside study.

INFANTRY

MS 111, 112, 113. **Infantry.** First Year Basic Course. An elementary course covering the fundamentals of military training; instruction in the duties of a private of Infantry. Military courtesies; discipline; guard duty; infantry drill; small arms instruction; physical training; bayonet drill; and minor tactics.

Freshman year; three terms; 2 credits each term; 4 periods.

MS 211, 212, 213. **Infantry.** Second Year Basic Course. A more extensive course than first basic course of Infantry, in military fundamentals and calculated to turn out well-trained corporals of Infantry. This course covers the same subjects as taught in the first basic Infantry course, and in addition, musketry, pistol practice, and field engineering.

Sophomore year; three terms; 2 credits each term; 4 periods.

MS 331, 312, 313. **Infantry.** First Year Advanced Course. This course includes practical work as drill masters, military law, camp sanitation, field fortifications, topography, map maneuvers, military policy, automatic rifles, grenades, and infantry drill; training for duties of higher non-commissioned officers and junior officers.

Junior year; three terms; 3 credits each term; 5 periods.

MS 411, 412, 413. **Infantry.** Second Year Advanced Course. A course contemplated to round out the military course for infantrymen and turn out well-trained infantry officers. Military history; minor tactics; strategy; tactical walks; map making and reading.

pistol and rifle practice; personal hygiene; camp sanitation; and practical work as drill masters.

Senior year; third term; 3 credits each term; 5 periods.

FIELD ARTILLERY

MS 121, 122, 123. **Field Artillery.** First Year Basic Course. The aim of this course is to instruct the student in the duties of a private of Field Artillery. Dismounted drill; military courtesy and discipline; first aid; interior guard duty; drill of a gun squad; gunners examination; ordnance and material; equitation.

Freshman year; three terms; 2 credits each term; 4 periods.

MS 221, 222, 223. **Field Artillery.** Second Year Basic Course. This course consists principally of the instruction given to the technical specialists and the non-commissioned officers of Field Artillery. Military ceremonies; topography; orientation; motors and motor vehicles; reconnaissance; use of the battery detail; mounted drill and draft; sub-caliber practice; pistol practice; gunners instruction and examination.

Sophomore year; three terms; 2 credits each term; 4 periods.

MS 321, 322, 323. **Field Artillery.** First Year Advanced Course. The object of this course is to ground the student thoroughly in the technical duties of a junior officer of Field Artillery. The theoretical work includes computation of firing data; exterior ballistics, the laws of dispersion, meteorological data and corrections of the moment, action and effects of projectiles and fuzes, terrain board exercises, smoke bomb practice (the smoke bomb range is completely equipped and furnishes a very close approximation to actual service firing), equitation and hippology, communication and liaison, battery emplacements and camouflage, functions of the various calibers of Field Artillery. Much time is devoted in this course to riding, and the students are encouraged to play polo in order to become first-class horsemen.

MS 421, 422, 423. **Field Artillery.** Second Year Advanced Course. The work of this year comprises those general subjects which round out the instruction of an officer of Field Artillery. Military law and courtesy; rules of land warfare; administration and army paper work; property accountability and records; military history and policy of the United States and a critical study of our most important campaigns, including those of the World War; minor tactics and map maneuvers; field service regulations; mounted instruction, including polo and cross-country riding.

Senior year; three terms; 3 credits each term; 5 periods.

MOTOR TRANSPORT

MS 131,132,133. **Motor Transport.** First Year Basic Course. An elementary course in the military fundamentals. Motor transportation convoys; motor vehicle engineering; infantry drill; military courtesy and discipline; small arms firing; personal hygiene; organization; care of arms and equipment; patrolling and guard duty, training for duties of private, Motor Transport Division, Quartermasters Corps.

Freshman year; three terms; 2 credits each term; 4 periods.

MS 231, 232, 233. **Motor Transport.** Second Year Basic Course. Military courtesy; infantry drill; care of arms and equipment; small arms firing; camp sanitation; guard duty; minor tactics; communications; topography; signalling; vehicle engineering and convoy work; training for corporal, Motor Transport Division, Quartermasters Corps.

Sophomore year; three terms; 2 credits each term; 4 periods.

MS 331, 332, 333. **Motor Transport.** First Year Advanced Course. Duties of a Motor Transport sergeant, including operations of convoys; convoy problems; military law and military policy; topography; field engineering; camp sanitation, minor tactics, and advanced motor vehicle engineering.

Junior year; three terms; 3 credits each term; 5 periods.

MS 431, 432, 433. **Motor Transport.** Second Year Advanced Course. A course of training calculated to produce competent and efficient Motor Transport lieutenants. Administration; fortifications; military law; mapmaking; tactics and strategy; hippology; advanced motor vehicle engineering; and maintenance of motor trucks.

Senior year; three terms; 3 credits each term; 5 periods.

ENGINEER CORPS

MS 141, 142, 143. **Engineers Corps.** First Year Basic Course. An elementary course calculated to produce a well-trained private of Engineers, including Infantry drill, military courtesy, discipline, personal hygiene, guard duty, rifle practice, topography, cordage and rigging, pontoon work, and simple bridges.

Freshman year; three terms; 2 credits each term; 4 periods.

MS 241, 242, 243. **Engineers Corps.** Second Year Basic Course. A course including further extension in military fundamentals and such technical education as an intelligent corporal of Engineers

should possess; Infantry drill; military courtesy and discipline; military bridges and river crossings; demolitions and mine warfare; military law; minor tactics; pistol and rifle practice; cordage and rigging; guard duty; camouflage; engineer map problems.

Sophomore year; three terms; 2 credits each term; 4 periods.

MS 341, 342, 343. **Engineer Corps.** First Year Advanced Course. A course of instruction in the duties of a master sergeant of Engineers, including practical work as drill masters in engineer work and Infantry drill; minor tactics; topography; camp sanitation; pontoon and land bridges; fortifications; military railways; military road construction; engineer map problems; cordage and rigging.

Junior year; three terms; 3 credits each term; 5 periods.

MS 441, 442, 443. **Engineer Corps.** Second Year Advanced Course. A course of instruction in the field and garrison duties of a lieutenant of Engineers, including practical work as drill masters; military construction; engineer organization; castramentation; application of all branches of engineering to the art of war; wharves and docks; administration; tactics and strategy; gasoline engines; electrical equipment for military use; hippology; equitation; engineer map problems; military history and policy; topography.

Senior year; three terms; 3 credits each term; 5 periods.

CAVALRY

MS 151, 152, 153. **Cavalry.** First Year Basic Course. A course in the fundamentals of the military science and technical duties of a private of Cavalry. Military courtesy and discipline; cavalry drill; drill regulations; small arms instruction; care and handling of arms and equipment; personal hygiene; minor tactics and guard duty.

Freshman year; three terms; 2 credits each term; 4 periods.

MS 251, 252, 253. **Cavalry.** Second Year Basic Course. A course of instruction in the duties of a corporal of Cavalry. Organization, military courtesy and discipline; care and handling of arms and equipment; cavalry drill; small arms firing; musketry; guard duty; physical training; topography; signaling; development and employment of Cavalry; equitation; Cavalry tactics.

Sophomore year; three terms; 2 credits each term; 4 periods.

MS 351, 352, 353. **Cavalry.** First Year Advanced Course. A course in military science and tactics calculated to produce well-trained and efficient Cavalry sergeants. Cavalry drill; cavalry tactics; care of animals; mounted pistol practice; packing; topography; camp sanitation; field engineering.

Junior year; three terms; 3 credits each term; 5 periods.

MS 451, 452, 453. **Cavalry.** Second Year Advanced Course. A course of instruction for the preparation of a Cavalry lieutenant. Hippology, minor tactics, cavalry drill and equitation; topography; mounted pistol practice; packing; employment of Cavalry in war; administration; military policy; history and economics; military law; field fortifications.

Senior year; three terms; 3 credits each term; 5 periods.

PHYSICAL EDUCATION FOR MEN

RICHARD BURR KUTHERFORD, A.B., Professor and Director.

GUY LESLIE RATHBUN, Assistant Professor.

RALPH COLEMAN, B.S., Instructor.

MICHAEL BUTLER, Instructor.

ROBERT HAGER, Instructor.

Because physical health determines capacity for efficiently carrying out the work which a student prepares for in college, Physical Education in modern educational institutions is being emphasized more and more every year.

Physical Education for Men in the Oregon Agricultural College includes the following subjects: (1) Gymnastics, Individual and Class Instruction; (2) Athletics, Intercollegiate and Intramural; (3) Physical Examinations; (4) Corrective Exercises; (5) Hygiene; (6) Physical-Training subjects not classified; (7) Teachers' Courses in Physical Education.

Individual Instruction. This is given in the form of advice based upon the health examination of the student. Health examinations are given during the freshman and sophomore years. The examinations are utilized for the purpose of finding defects whose proper treatment may add to the health efficiency of the student. Advice given at this time is recorded and when a student reports for conference the advice on file is followed up. Students found with remediable physical defects are given special corrective work.

Physical Training. Students may devote themselves to any one of the three following phases of physical training: intercollegiate athletics, intramural athletics, and gymnasium.

Intercollegiate Athletics. All intercollegiate athletics is under the jurisdiction of the Board of Control, composed of three members of the faculty, five members of the student body, and one alumnus. Representative teams are organized for baseball, basket-ball, cross-country running, football, soccer, tennis, track, and wrestling. Participation during the whole season of sport is accepted for one term credit in Physical Education.

Intramural Athletics. The work in intramural athletics is supervised by a council consisting of the Director of Physical Education, Colonel of the Cadet Regiments, President of the Student Body, Editor of the O. A. C. Barometer, Professor of Intercollegiate Athletics, and a representative elected by each of the following groups: Fraternities, Clubs, and Independents.

The department has organized the work in intramural athletics so that every student who is physically fit to take part in athletic

contests has the opportunity to participate in scheduled competitive sports. "Every O. A. C. man an athlete" is the slogan of the College.

For credit, attendance of two hours each week is required of all freshmen and sophomores who elect this work. The activities include: **fall sports** (football, soccer, cross-country running, field events, swimming, tennis, indoor baseball); **winter sports** (basket-ball, track and field events, wrestling, boxing, hand ball, volley ball, swimming, and advanced gymnastics); **spring sports** (baseball, track and field events, tennis, swimming, and cross-country running).

Gymnasium Classes. Individual and class instruction. Students who are unsuited (determined by examination and tests) or who do not desire to work in intercollegiate or intramural athletics are assigned to gymnasium classes, in which the students are given work for correcting defects, and for developing physical efficiency and muscular power.

Attendance of two hours each week is required of all freshmen and sophomores carrying gymnasium work.

Teachers' Courses in Physical Education. The Oregon law requiring physical education in all public schools went into effect September 1, 1919. This law has created a demand for training in physical education on the part of teachers in both elementary and high schools. Many teachers of the vocations are able to render competent service in giving instruction in physical education in addition to their regular work. Community leaders everywhere require training for leadership in recreation and physical education. Students of the College who plan to teach after graduation will find distinct professional advantage in the training included, not only in the required Physical Education work, but also in many of the elective courses.

Summary of Oregon Physical Education Law. The new law requiring physical education in the public schools of Oregon provides for a minimum of one hundred minutes a week, or an average of twenty minutes daily, for physical training activities in elementary schools. The State Superintendent of Public Instruction has published a special syllabus prepared by a committee of experts, giving the requirements of the law. The law requires the work to consist of activities promoting physical vigor, physical posture, bearing and mental and physical alertness, self control, disciplined initiative, sense of patriotic duty, and spirit of cooperation under leadership.

Equipment. The third and fourth units of the Men's Gymnasium are now completed, thereby doubling the size of the building. The west unit provides boxing and wrestling rooms, bowling alleys, and handball and squash courts. The south unit contains the natatorium,

one of the finest on the Coast, with a white-tile pool one hundred by fifty feet in size and with a surrounding gallery capable of seating 1,500 spectators. Modern diving boards, electric lights for the bottom of the pool, and refiltration and ultra-violet ray process for keeping the water sterile, are part of the equipment. The east wing has an auxiliary gymnasium for apparatus work, three handball courts, two wrestling rooms, and one large room for volley ball. The main, central unit contains locker and shower rooms, lobby and offices, and the great gymnasium hall with a floor ninety by one hundred fifty feet in dimensions, with three regulation basket-ball courts. The equipment includes all modern gymnasium apparatus and facilities for physical education and recreation.

The Athletic Field. The Oregon Agricultural College field for athletics comprises a new quarter-mile track; varsity football field, with a new steel-covered grandstand seating five thousand people and covered bleachers bringing the total seating capacity up to thirteen thousand; six practice football fields; and soccer and baseball fields for intramural athletics.

Eight tennis courts have been constructed which afford facilities for tennis.

The Armory, one of the largest of its kind in the United States, provides fine facilities for winter training during inclement weather in football, track, baseball, and various other sports. An indoor clay track, banked at the turns, which is but eight laps to the mile, and the extension clay floor space and high dome roof furnish facilities for conducting large winter track and field meets.

The official receipt for the regular gymnasium fee each term entitles the holder to full privileges of the department, including: health examination, strength tests, locker, use of shower rooms, towels and soap, athletic fields, gymnasiums, etc.

COLLEGIATE COURSES

PEm 111, 112, 113. **Physical Training.**

Required in all degree curricula; freshman year; three terms; $\frac{1}{2}$ credit each term; 2 periods.

PEm 121, 122, 123. **Hygiene.** These courses consist of a series of lectures on personal and impersonal hygiene, sources and modes of infectious diseases, immunity, industrial and occupational diseases and the like. One term required of all freshman and first year vocational students. No credit toward graduation is given for these courses.

PEm 141. **Red Cross Certificate in First Aid to the Injured (for Men).** (Not given 1921-22).

Elective; first term; 1 credit; 1 lecture.

PEm 211, 212, 213. **Physical Training.**

Required in all degree curricula; sophomore year; three terms; $\frac{1}{2}$ credit each term; 2 periods.

PEm 231. **Elementary and Advanced Gymnastics.** Theory and practice of gymnastics.

Elective; second or third term; 1 credit; 2 periods.

PEm 232, 233. **Methods of Coaching Athletic Teams.** Football, basket-ball, track, baseball, wrestling, swimming, and soccer.

Sophomore year; second and third terms; 2 credits each term; 2 lectures.

PEm 241. **Physical Department Methods and Physical Diagnosis.** Physical examinations; detection of abnormal health conditions.

Prerequisite: PEm 111, 112, 113, 123. Elective; sophomore year; first or second term; 2 credits; 2 lectures. (Not given 1921-22).

PEm 244. **Kinesiology.** Essentials of anatomy as related to physical education; muscles and their action; analysis of the movements of the body and their mechanisms as a working basis for the selection of gymnastic exercises; lectures and demonstrations on skeleton and human body.

Prerequisite: A course in Anatomy. Sophomore year; second term; 2 credits; 2 lectures. (Not given 1921-22).

PEm 274. **Community Recreation.** A course designed to prepare for leadership in recreational activities.

Elective; third term; 2 credits; 2 periods.

PEm 311, 312, 313. **Physical Training.**

Elective in degree curricula; junior year; three terms; $\frac{1}{2}$ credit each term; 2 periods.

PEm 341. **Physio-therapy.** Elements of corrective exercises; methods and exercises used for corrective and therapeutic purposes. Types of variations from the normal, and the effect of corrective exercises.

Elective; second term; 2 credits; 2 periods.

PEm 361. **Practice Teaching.** Students work under supervision as assistants in various courses. Conferences are held by the instructors in charge, and students submit reports.

Elective; junior year; any term; 2 credits; 3 periods.

PEm 411, 412, 413. **Physical Training.**

Elective in degree curricula; senior year; 3 terms; 1 or 2 periods.

VOCATIONAL COURSES

PEm 11, 12, 13. **Practical Gymnastics.**

Required of men in vocational curricula; first year; 3 terms; $\frac{1}{2}$ credit each term.

PEm 21, 22, 23. **Practical Gymnastics.**

Prerequisites: PEm 11, 12, 13, or equivalent. Required of men in vocational curricula; second year; 3 terms; $\frac{1}{2}$ credit each term.

PHYSICAL EDUCATION FOR WOMEN

EDNA AGNES COCKS, A.M., Professor and Director.

ETTA LUNT, Secretary.

DORIS MABEL THORNELY, Assistant Professor.

RUTH HJERTAAS, Instructor.

ESTHER GRUA, A.B., Instructor.

RUTH WININGER, A.B., Instructor

LOIS RANKIN, A.B., Instructor.

The aim of this department is to bring each student to her best possible physical condition, and by careful training to correct faulty posture, to aid in the formation of habits of hygienic living, to establish a normal condition in the circulatory and respiratory systems, to secure bodily vigor, and to attain a healthy and symmetrical development.

Special Corrective and Medical Gymnastics. Students who are shown by physical examination to be unfit for the work of the regular classes in gymnastics and sports, are assigned to corrective classes where the work is light and emphasis is laid on correct breathing and posture, relaxation, and rest; or, whenever necessary, students are given private work in medical gymnastics according to individual needs. The physical condition of each student is carefully diagnosed and supervised. The instructors encourage conferences concerning matters of health and personal hygiene and cooperate with the resident physician in all cases.

Courses for Students Preparing to Teach. Many teachers of Home Economics, Agriculture, Manual Training, and Commerce in elementary and high schools are expected also to give instruction in Physical Education, and all teachers who are trained in this field are able to render valuable service in the schools and communities where they work. A brief summary of the Oregon law requiring physical education in all public schools of the State is given on page 396. Prospective teachers of the vocations, extension workers, and community leaders will find the required and elective courses in Physical Education valuable as part of their professional equipment.

Requirements. Work in Physical Education is required of all freshmen and sophomores four periods a week, and of all juniors and seniors two periods a week, unless deferment has been granted by the director or unless excuse is granted for physical reasons.

Examinations. All students are required to take a medical examination by the College Physician, and a physical examination by the Director of Physical Education for Women.

Uniforms. The gymnasium uniform consists of an all-black suit, black hose, and black gymnasium shoes. The shoes can be purchased in Corvallis, but the suits must be ordered at the gymnasium office at the time of registration. The uniforms for out-of-doors consist of a short, full, white wash skirt, white middie, and sport shoes or tennis shoes. Ballet shoes are used in the aesthetic dancing classes.

Fee. A gymnasium fee of \$1.50 a term is charged for use of bath, lockers, towels, medical supplies for injuries, etc.

Equipment. The Women's Gymnasium has floor space for regular gymnasium work, a balcony running-track and playing space for basket-ball and other games. On the main floor are found horizontal bars, vaulting horses, and bucks, parallel bars, swinging rings, traveling rings, Swedish box, stall bars, climbing ropes, ladders, dumb bells, Indian clubs, and wands. There are lockers and dressing rooms for all needs, and shower-bath rooms where hot and cold water is available throughout the year. The women's athletic field provides for such games as basket-ball, field hockey, soccer, tennis, baseball, and crossball. The swimming pool in Shepard Hall is under the direction of the department of Physical Education for Women and is supervised by an instructor.

COLLEGIATE COURSES

PEw 111, 112, 113. **Practical Gymnastics.** Swedish gymnastics, combining floor and apparatus work with training in correct posture and breathing. Required of all freshmen in degree curricula; the other two required hours may be selected from elective courses.

Required of all women in degree curricula; freshman year; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Ruth Hjertaas, Lois Rankin, Ruth Wininger, Esther Grua

PEw 114, 115, 116. **Corrective Gymnastics.** Gymnastic work adapted to the needs of women not suited to the regular gymnasium work.

Required of women in degree curricula not taking PEw 111, 112, 113; freshman year; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Edna A. Cocks, Doris Thornely

PEw 121. **Social Ethics.** Lectures covering the art of right living in all its phases, supplemented by short reports. Repeated second term if enrollment warrants.

Required of all women in degree curricula (freshman year), all women in vocational curricula, and all optional and special women students; first term; 1 credit; 2 periods. *Mary E. Fawcett*

PEw 122. **Hygiene.** Lectures covering personal and general hygiene, including care of the skin, hair, teeth, nails; care of the special senses, as eye, ear, nose, and throat; study of rest, exercise, and recreation.

Required of women in degree curricula (freshman year), all women in vocational curricula, and all optional and special women students; second term; 1 credit; 1 period. *Edna A. Cocks*

PEw 123. **Sanitary Science.** Public and private sanitation as related to infections, diseases, care of foods, water supply, and sewage; care of public and private buildings; general health supervision.

Required of all women in degree curricula (freshman year), all women in vocational curricula (first year), and all optional and special women students; third term; 1 credit; 2 periods.

Edna A. Cocks

PEw 131, 132, 133. **Dancing.** (a) Elementary Aesthetic Dancing. Aesthetic technique and practice of rhythmic movements; simple aesthetic dances, based on both the Chalif and Russian methods. (b) Elementary Folk Dancing. The simple national folk dances of all nations.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Ruth Hjertaas

PEw 134, 135, 136. **Gymnastic Dancing.** Steps progressing from the simple to complex movements.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Ruth Hjertaas

PEw 137, 138, 139. **Apparatus Work.** This course consists of work with both light and heavy apparatus, such as rings, ladders, stall bars, vaulting box, and mats.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Ruth Hjertaas

PEw 141, 142, 143. **Elementary Outdoor Sports** (a) Tennis. (b) Hockey. (c) Basket-ball. (d) Baseball. (e) Soccer. (f) Cricket. (g) Track Athletics. The work includes various sports to give recreation and to form a basis for the habit of open-air work.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Esther Grua, Lois Rankin, Ruth Winiger

PEw 151, 152, 153. **Elementary Swimming.** A course in which the students are helped to overcome timidity of being in the water

and are taught the ordinary back stroke, side stroke, and simple diving.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Esther Grua, Lois Rankin, Ruth Winiger

PEw 211, 212, 213. **Practical Gymnastics.** A continuation of PEw 111, 112, 113. These courses are required; the other two required hours may be selected from the elective courses.

Required of all women in degree curricula; sophomore year; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Esther Grua, Ruth Hjertaas, Lois Rankin, Ruth Wininger

PEw 214, 215, 216. **Corrective Gymnastics.** A continuation of PEw 114, 115, 116.

Required of women in degree curricula not taking PEw 211, 212, 213; sophomore year; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Edna A. Cocks, Doris Thornely

PEw 231, 232, 233. **Dancing.** (a) Intermediate Aesthetic Dancing. (b) Intermediate Folk Dancing. A continuation of courses PEw 131, 132, 133.

Elective; three terms; 1 credit each term; 2 periods.

Ruth Hjertaas

PEw 237. **Hand Apparatus.** Work with Indian clubs, dumb bells, wands, balls, and reeds.

Elective; first term; $\frac{1}{2}$ credit; 2 periods.

Edna A. Cocks

PEw 238. **Fencing.** Includes individual and class instruction in foil and saber fencing; methods of single and double rank formations; salutes and fencing bouts.

Elective; second term; $\frac{1}{2}$ credit; 2 periods.

Doris Thornely

PEw 239. **Archery.** A course in the principles and fundamentals of archery.

Elective; third term; $\frac{1}{2}$ credit; 2 periods.

Lois Rankin

PEw 241, 242, 243. **Advanced Outdoor Sports.** (a) Tennis. (b) Hockey. (c) Basket-ball. (d) Baseball. (e) Soccer. (f) Cricket. (g) Track Athletics. A continuation of courses PEw 141, 142, 143.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Esther Grua, Lois Rankin, Ruth Wininger

PEw 251, 252, 253. **Advanced Swimming.** A continuation of PEw 151, 152, 153, adding more intricate strokes, fancy diving, ornamental swimming, and life-saving.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Esther Grua, Lois Rankin, Ruth Winiger

PEW 311, 312, 313. **Advanced Gymnastics.** A more advanced course in general gymnastics for students who have completed courses PEW 111, 112, 113 and PEW 211, 212, 213.

Three terms; $\frac{1}{2}$ credit each term; 2 periods. *Ruth Hjertaas*

PEW 331, 332, 333. **Dancing.** (a) Advanced Aesthetic Dancing. (b) Advanced Folk Dancing. A continuation of courses PEW 131, 132, 133, and 231, 232, 233.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Ruth Hjertaas

PEW 245. **First Aid to the Injured.** This course covers emergency treatment of wounds, shocks, fainting, hemorrhage, burns, sunstroke, sprains, fractures, and poisons; the use of bandages; care of the wounded.

Elective; third term; 2 credits; 2 periods.

PEW 344, 345. **Kinesiology.** A study of the anatomy of the motor organs with special reference to joint and muscular mechanism; the relation of various sets of movements to muscular development.

Prerequisite: Anatomy and Physiology. Elective; first and second terms; 3 credits each term; 3 periods.

Edna A. Cocks

PEW 346. **Physiology of Exercise.** A study of the effect of exercise on health, considering heat, fatigue, exhaustion, overwork, breathlessness, and amount of training.

Elective; third term; 3 credits; 3 periods.

Edna A. Cocks

PEW 375. **Playground and Gymnastic Games.** A study and analysis of games for the playground and gymnasium; lectures on the theory of games; reference reading and reports; practical working of games.

Elective; second term; 3 credits; 3 periods.

Ruth Wininger

PEW 376. **Theory and Coaching of Athletic Sports.** This course covers the theory and coaching of all organized sports and track athletics, including lectures, reference reading, and the handling of squads and teams.

Elective; third term; 3 credits; 3 periods.

Ruth Wininger

PEW 423. **Advanced Hygiene and Sanitary Science.** This course takes up the vital points in hygiene and sanitation and includes the theory of teaching the subject in the elementary and the high schools.

Elective; third term; 2 credits; 2 periods.

Edna A. Cocks

PEW 431. **History of Physical Education.** A course covering the origin and development of physical education including leading educators.

Elective; first term; 3 credits; 3 periods.

Edna A. Cocks

PEw 441. **Massage.** Theory and practice of body massage, including treatment for conditions arising from athletic strain.

Prerequisites: Anatomy and Kinesiology. Elective; first term; 3 credits; 3 periods. *Doris Thornely*

PEw 442. **Therapeutic Gymnastics.** Corrective gymnastics as applied to abnormal health conditions; prescription of exercises; medical gymnastics.

Perequisites: Anatomy and Kinesiology. Elective; second term; 3 credits; 3 periods. *Doris Thornely*

PEw 443. **Physical Diagnosis and Anthropometry.** Theory and practice in detecting normal and abnormal physical signs; history; laws of human proportion; measurements; practice in taking and recording measurements; practice in school clinic.

Prerequisites: Anatomy and Kinesiology. Elective; third term; 3 credits; 3 periods. *Doris Thornely*

PEw 451, 452, 453. **Physical Education Seminar.** An advanced course for students taking special work in physical education. Discussions of vital problems in physical education; reviews and reports of books and magazine articles. Each student is required to write a term thesis.

Elective; three terms; 1 credit each term; 1 period.

Edna A. Cocks

PEw 461, 462, 463. **Principles and Theory of Physical Education.** This course takes up the organization, leadership, and administration of physical training; preparation for teaching Physical Education; the theory of handling classes; reference reading.

Elective; three terms; 3 credits each term; 3 periods.

Edna A. Cocks

PEw 464, 465, 466. **Practice Teaching.** The course consists in the actual handling of classes, using the fundamentals and methods of the course in Principles and Theory of Physical Education (PEw 461, 462, 463) with lesson plans. These courses must be taken together.

Elective; three terms; 1 credit each term; 3 periods.

Edna A. Cocks

PEw 471. **Theory of Play.** A study of the nature of the child; the nature and function of play; the value of play; aims and spirit in the conduct of play.

Elective; first term; 3 credits; 3 periods.

Doris Thornely

PEw 472. **Organization and Administration of Physical Education and Recreation.** Development, organization, and management

of Physical Education; the playground movement; construction and equipment; use of apparatus; government and discipline.

Elective; second term; 3 credits; 3 periods.

Edna A. Cocks

VOCATIONAL COURSES

PEw 11, 12, 13. **Practical Gymnastics.** Swedish gymnastics; floor and apparatus work; breathing and posture training.

Required of women in vocational curricula; first year; three terms; $\frac{1}{2}$ credit each term; 2 hours a week. The other two hours a week required the student may select from elective courses.

Esther Grua, Lois Rankin, Ruth Hjertaas, Ruth Wininger

PEw 21, 22, 23. **Practical Gymnastics.** Continuation of the work of PEw 11, 12, 13.

Required of women in vocational curricula; second year; three terms; $\frac{1}{2}$ credit each term. The other two hours a week required the student may select from elective courses.

Esther Grua, Ruth Hjertaas, Lois Rankin, Ruth Wininger

SCHOOL OF MUSIC

WILLIAM FREDERIC GASKINS, Mus.B., Director of the School of Music;

WILLIAM FREDERIC GASKINS, Mus.B., Director of the School of Music
Professor of Music.

Graduate student Hillsdale College Conservatory; graduate student American Conservatory; graduate student of Karlton Hackett, Chicago; J. D. Mehan, New York; F. X. Arens, New York; Percy Rector Stephens, New York.

GENEVIEVE BAUM-GASKINS, Instructor in Organ, Pianoforte, and Voice. Leschetizky Method. The Dunning System for Beginners. Graduate of American Conservatory, Chicago; student of William Nelson Burritt, New York; Karlton Hackett, Chicago; John Dennis Mehan, New York; John J. Hattstaedt, Chicago; and Wilhelm Middle-schulte, Chicago.

GUSTAV DUNKELBERGER, Mus.B., Instructor in Pianoforte and Theory of Music.

Graduate of Bethel College Conservatory; graduate student American Conservatory, Chicago, and Institute of Musical Art, New York; pianoforte pupil of Heniot Levy, and Richard Guhlig—a pupil of Leschetizky; ensemble under Adolf Weidig, Chicago; theory pupil of Arthur Olaf Andersen—a pupil of d'Indy and Sgambati; theory pupil of Dr. Percy Goetschius, and Louis Victor Saar—a pupil of Rheinberger and Brahms.

RUTH RONDEAU, Assistant Instructor in Pianoforte.

Graduate Oregon Agricultural College School of Music; graduate student of Calvin Cady, Columbia University; graduate student of Lhevinne, American Conservatory, Chicago. Specialist in the Progressive Series.

CARL GRISSIN, Instructor in String Instruments and Orchestration. Student of Edmund Singer, Stuttgart; Gustav Hollaender, Berlin; Carl Halir, Berlin; Samuel de Lange, Berlin; Joseph Mayer, Berlin.

FLORENCE BOWDEN, Instructor in Violoncello, Mandolin, Banjo. Pupil of Frederic Konrad, Leo Schultz, August Andersen, mandolin, guitar, etc.; Guillaume LeBlanc, Jose Martinez, Carlos Rebagliati.

HARRY LYNDEN BEARD, B.S., Instructor in Band Instruments and Band Conducting.

Student of Herbert L. Clark, of Sousa's Band; Frank X. Heric, of New York; Herman Trutner, U. S. Army; Glen Wood, Oakland, Cal.; Paul Steindorff, San Francisco; Adolph Rosenbecker, and Daniel Protheroe, Chicago; A. F. Welden, Chicago.

NELLIE HOONE-WETMORE, Assistant Instructor in Band Instruments.

Student of Herbert L. Clark, soloist of Sousa's Band, Boston; J. B. Claus, Boston; Herman Bellstedt, Cincinnati; soloists in Columbia records.

GENERAL STATEMENT

Recognizing the value of musical education and experience to the college community, the Board of Regents in 1908 authorized the organization and establishment of the School of Music under the present direction, and made provision for ample room, instruments, and other necessary facilities for instruction of the highest standard.

Individual and class instruction involve the payment by students of tuition in accordance with an authorized schedule. The School of Music is thus a self-supporting department of the Oregon Agricultural College.

Members of the faculty of the School of Music give gratuitous instruction to certain student musical organizations of the College. In this manner and through other College functions, the School of Music contributes in a large way to the educational, artistic, and social life of the institution.

MUSICAL ORGANIZATIONS AND CONCERTS

The musical organizations of the College include two College bands; the Oregon Agricultural College Orchestra; the Glee Club, composed of men students; and the Madrigal Club, a choral society composed of women students. The instruction in these organizations is given by the faculty of the School of Music.

The Orchestra. Students of string instruments in attendance at the College, who are sufficiently advanced are admitted to membership in the College Orchestra by the Conductor on terms approved by the Director. Every reasonable encouragement is given to the development and maintenance of a good orchestra under competent, progressive leadership. Students are invited to investigate these opportunities for excellent training in orchestra routine and solo playing. Such experience and drill are of great educational and cultural value.

The Orchestra library consists of works by the following composers: Dvorak, Brahms, Tchaikowsky, Grieg, Gounod, Verdi, Mendelssohn, Beethoven, Elgar, Wagner, Offenbach, Strauss, and others.

Sonatas for violin and piano; string trios, quartettes for two violins, viola, and 'cello, and for four violins are available for study. All students in string instruments must perform from memory in public when requested by the instructor and approved by the Director. Membership in the ensemble classes is free, and instruction is given by the principal violin instructor.

The College Band. Instruction in the use of brass, wood-wind, and percussion instruments is given by the regular College band leader. To become a member of the College Band, a student must pass a satisfactory examination in the elements of music and ability

to perform on his instrument. Members are required to attend daily rehearsals, and a reasonable amount of individual practice is expected. Each member must furnish his own instrument and music stand, except basses, baritones, altos, and drums, which are furnished by the College. Any student desiring to enter the band should see that his instrument is in low pitch.

Concerts. In addition to the public recitals of the students of the School of Music which are given periodically throughout the college year the annual concerts of the various student musical clubs are attractive events in the student calendar. The Glee and Madrigal concerts are artistic presentations of the first magnitude. The Orchestra and Band concerts are occasions that bring out the largest and most enthusiastic audiences of the year. Every two years the Glee and Madrigal clubs, assisted by the College Orchestra, produce a classic light opera. The *Mikado*, *The Bohemian Girl*, *The Lass of Limerick Town*, and the *Pirates of Penzance* were charming examples of amateur performance.

Coupled with such services to the college community as these is the effort of the Director of the School of Music to bring to the College some of the celebrated musical artists of the country, whose concerts have been events of real moment in the aesthetic life of the college community.

COURSES

Work is offered in the following subjects: elements of music; history of music; interpretation; languages; music form and analysis; music pedagogics; song, oratorio, opera, and choral singing; organ playing, organ structure; piano playing, piano structure; sight reading; stage deportment; string instrument, wind instrument, and brass instrument playing; theory; harmony; counterpoint; composition; voice culture.

SUPPLEMENTARY HARMONY AND THEORY

Mus 101. Harmony. Consideration of the theories of acoustics, the formation of the diatonic scale, intervals, chord construction, the relative importance of triads within one key, connection of primary triads, rhythm, the elements of melodic construction, and part writing; harmonization of melodies and unfigured basses; original phrases and periods. Aural recognition of intervals demonstrated orally and in writing. Simple melodic dictation in both modes.

Required in all major courses in music; elective to others; freshman year; three terms; 2 recitations.

Mus 102. Harmony. Key relations; chord of the seventh; direct and extraneous modulation; altered and mixed chords. Ear-training

exercises containing the more difficult diatonic and chromatic skips and difficult rhythms.

Prerequisite: Mus 101. Sophomore year; three terms; 2 recitations.

Mus 103. **Harmony.** Modulations; inharmonic tones; study of the various modern harmonic theories; original exercises. Harmonic dictation including primary and secondary triads, dominant discords and their inversions.

Prerequisite: Mus 102. Junior year; 3 terms; 2 recitations.

Mus 104. **Elementary Counterpoint.** Simple counterpoint in the five orders applied in original exercises and the small invention for two, three, and more parts.

Prerequisite: Mus 101 or equivalent. Sophomore or junior year; three terms; 2 recitations.

Mus 105. **Analysis.** Detailed harmonic and formal analysis of representative works of the masters and other compositions; development of analytic memory.

Prerequisite: Mus 103 or equivalent. Parallel with Mus 106. Senior year; three terms; 2 recitations.

Mus 106. **Composition.** The application of harmonic material in original exercises in the homophonic forms, from the simple phrase to the song form with trio.

Prerequisite: Mus 103 or equivalent. Senior year; three terms; 2 recitations.

Mus 107. **Orchestration.** The arrangement of music for orchestra; theoretical study of orchestral instruments and their functions.

Prerequisite: Mus 103. Senior year; first term; 2 recitations.

Mus 108. **History of Music.** Lectures on the evolution of musical thought, appreciation, and scholarship, presenting essential chronological data, with reference to the dominant characters of musical activity.

Three terms; 2 hours a week, in class.

Mus 109. **Pedagogy.** A pianoforte course, presenting systematically arranged material, and recommending approved methods of instruction for beginners or advanced students. Open to sophomores, juniors, seniors, or accomplished special students. Private instruction.

Elective; three terms; 1 hour.

MAJOR THEORY

Mus 151. Theory. A major course in theory. Altered chords, chromatic progression of chords, and enharmonic transformation of discords as used in modulatory processes; inharmonic tones; wandering harmonies; modern harmonic theories; vocal and instrumental harmony with an irregular number of parts; style. Counterpoint applied in the invention for two, three, and more parts; contrapuntal choral elaborations. Original work; harmonic dictation.

Prerequisites: Mus 102 and 301, or equivalents. Freshman year; 3 terms; 2 hours.

Mus 152. Theory. Composition in the simple homophonic forms; analysis. Harmonic dictation using altered and mixed chords.

Prerequisite: Mus 151. Mus 107 and 108 are required parallels. Sophomore year; three terms; 2 hours.

Mus 153. Theory. Advanced counterpoint applied in the various species of fugue, single and double, and the canon. Analysis.

Prerequisite: Mus 152. Junior year; 3 terms; 1 hour.

Mus 154. Theory. The larger forms of composition, including the variation, rondo forms, the sonatina, and sonata-allegro forms. Analysis. For graduation each student is required to compose an original instrumental or vocal composition in one of the larger forms.

Prerequisite: Mus 153. Senior year; three terms; 1 hour.

VOICE

Mus 201. Voice Culture and Singing. Exercises for correct breath control; freedom of action of vocal mechanism; purity of tone; blending of registers; correct pronunciation; distinct enunciation of vowels, consonants, and other elements of speech; suitable vocalises; appropriate songs; public singing subject to the discretion of the Director.

Parallel courses: Mus 101, 108; Physical Education. Freshman year; three terms; 2 private lessons a week; 1 to 2 hours daily practice.

Mus 202. Voice Culture and Singing. Exercises for tone placing and beauty of quality, phrasing, style. Physiology of the vocal mechanism, with stress on conservation of voice. Appropriate songs of moderate difficulty. Public singing subject to the discretion of the Director. First year Italian, French, or other modern language.

Prerequisite: Mus 201 or equivalent. Parallel course, Mus 102. Sophomore year; three terms; 2 private lessons a week; 1 to 2 hours daily practice.

Mus 203. **Voice Culture and Singing.** Advanced technical development and interpretative skill, by means of difficult songs, vocalises, and ensemble singing, in English, and modern languages. Second year modern language as in Mus 203, continued three terms. Performance on public programs of the School of Music as required by the Director. Required: Two private lessons a week; practice daily.

Prerequisite: Mus 202 or equivalent. Parallel courses, Mus 103, 104. Junior year; 3 terms; 1 to 2 hours.

Mus 204. **Voice Culture and Singing.** Advanced study of vocal technique by means of masterpieces. Public singing as required under the rules and regulations of the School of Music. For graduation a public recital is required under conditions specified by the Director. Required: Two private lessons a week.

Prerequisite: Mus 203 or equivalent. Parallel courses, Mus 105, 106, 107. Senior year; three terms; 1 to 3 hours daily practice.

PIANO

Mus 301. **Piano.** Scales and arpeggios; exercises for speed and rhythm; etudes from Czerny, Cramer, Moszkowski, and others; easy sonatas of Haydn, Mozart, and Beethoven; easy compositions of Mendelssohn, Schubert, Schumann, Grieg, and others.

Prerequisite: Mus 300 or equivalent. Mus 101, 108, and Physical Education are required parallel courses. Freshman year; three terms; 2 private lessons a week; 2 to 4 hours daily practice.

Mus 302. **Piano.** Scales in various forms and technical exercises adapted to the particular needs of the student; etudes of Czerny, Cramer, Ruthardt, and others; suites and inventions of Bach; Mozart, Beethoven, and Weber sonatas of moderate difficulty; more difficult compositions by Mendelssohn, Schumann, Chopin, Liszt, and others; easy transposition, sight reading, and memory training.

Prerequisite: Mus 301 or equivalent. Mus 102, a modern language, and Physical Education are required parallel courses. Sophomore year; three terms; 2 private lessons a week; 3 to 5 hours daily practice.

Mus 303. **Piano.** Exercises based on technical difficulties in compositions studied in this course; a limited number of etudes by Rubinstein, Henselt, Haberbier, and others; well-tempered clavier; the more difficult sonatas of Beethoven and solos by Mendelssohn, Chopin, Schumann, Grieg, Liszt, Brahms, and others; concertos by Mozart, Mendelssohn, Beethoven, and Moscheles.

Prerequisite: Mus 302 or equivalent. Mus 103, 104, a modern language, and Physical Education are required parallel courses. Junior year; three terms; 2 private lessons a week; 3 to 5 hours daily practice.

Mus 304. Piano. Scales and exercises in double notes. Inclusive study of the principal classic and romantic composers; etudes by Chopin and Moszkowski; solo works of modern composers; concertos by Schumann, Chopin, Rubinstein, and others. Public performances under conditions approved by the Director. For graduation, students are required to perform publicly under the direction of the School of Music, playing a program not less than an hour in length, arranged by the instructor and approved by the Director.

Prerequisite: Mus 303 or equivalent. Mus 105, 106, and 107 are required parallel courses. Senior year; three terms; 2 private lessons a week; 3 to 5 hours daily practice.

THE DUNNING SYSTEM

Mus 305. Piano. Elective. A course in music study for beginners, whether adults or children. An attractive, original, and effective method of learning the facts of music, and playing the pianoforte. The powers of analysis, memory, and expression are materially strengthened; technical facility is gained in harmony with the best principles of pianoforte pedagogy; and musical taste and discrimination are substantially developed. A qualified, authorized, and experienced instructor is in direct charge of this department. Classes limited to six in number.

Three terms; 2 hours a week.

THE PROGRESSIVES SERIES

Mus 306. Piano. Elective. Normal Courses in Pianoforte Instruction. Grades: Elementary, Intermediate, Advanced, and Graduate. These courses promote the standardization of pianoforte teaching, and furnish the solution of many technical difficulties by means of authentic outlines applicable to daily instruction and practice. The Art Publication Company's Progressive Series constitutes a finely annotated and correlated text containing all essential subjects embraced in the theory of music and pianoforte technic. These courses lead to recognition by certificates and free scholarships. By payment of the designated fees, all materials required for each course are furnished the student, inclusive of the necessary instruction. A qualified, authorized exponent of The Progressive Series is in charge of the instruction in these courses, registration for which is in the same manner as for all other music courses.

VIOLIN

Mus 401. Violin. Exercises for correct fingering, free bowing, accuracy as to pitch, rhythm, and intonation. Studies: Sevcik, Greenberg, Hohman, Kayser, Joachim, Moser, Singer, Seifriz, Laoreux. Elementary solos, sight reading duos by Mazas, or Dancla.

Parallel courses, Mus 101, 108. Three terms; 2 private lessons a week; 2 to 4 hours daily practice.

Mus 402. **Violin.** Studies by Kayser, Wohlfahrt, Schradieck, Mazas, Dont, Kreutzer, scales by Musin or Schradieck, solos, sonatas, ensemble playing at discretion of instructor.

Prerequisite: Mus 401. Parallel courses, Mus 102; ML 111, 112, 113; or ML 121, 122, 123; or ML 131, 132, 133. Three terms; 2 private lessons a week; 3 to 5 hours daily practice.

Mus 403. **Violin.** Advanced studies and compositions by Dancla, Fiorillo, Singer, Rode, Paganini, Dvorak, Brahms, Vieuxtemps, De Beriot, Viotti, and others, at the discretion of the instructor. Ensemble playing. Chamber music.

Prerequisite: Mus 402. Parallel courses, Mus 103, 104; ML 211, 212, 213; or ML 221, 222, 223; or ML 231, 232, 233. Three terms; 2 private lessons a week; 3 to 5 hours daily practice.

Mus 404. **Violin.** Advanced studies, solos, ensemble, and chamber music, as approved by the instructor.

Prerequisite: Mus 403. Parallel courses: Mus 105, 106, 107. Two private lessons a week; 4 to 5 hours daily practice. As a qualification for graduation, the student is required to present an authorized public performance of memorized compositions, in a program lasting not less than an hour, arranged by the instructor and approved by the Director.

BAND INSTRUMENTS

The work in theory required to complete these courses is that outlined in Mus 101 to 108 inclusive. Two private lessons a week required for twelve terms.

Mus 22. **Cornet.** Methods by Arban; characteristic studies by St. Jacome.

Mus 23. **Clarinet.** Methods by Dieppo; studies by Dieppo and Blume.

Mus 24. **French Horn.** Methods by Franz; studies by Franz and Hayffman.

Mus 25. **Band Instruments.** In all other band instruments, including the oboe, bassoon, saxophone, alto, and bass clarinets, drummer's traps, xylophone, and orchestra bells, the courses are similar to those given above.

DIPLOMAS

To each student satisfactorily completing the major courses in Harmony, Theory, Voice Culture and Singing, Pianoforte, Organ, Violin, or Band Instruments, a diploma is issued under the seal of

the Oregon Agricultural College, and awarded at the regular annual graduation exercises.

REGULATIONS

Any student in the Oregon Agricultural College with a satisfactory record in scholarship in his major courses may elect at least one hour a day in music, by arrangement with the Director of the School of Music. The authority to register and assign all applicants for music instruction is vested solely in the Director, who must first be consulted for the arrangement of details of registration, or at any time when information is required that pertains to study in the various departments of the School.

Students in the School of Music may enter classes in other departments of the College; and they are encouraged to take at least one course throughout the college year in addition to their regular music work.

Applicants may take complete or part courses. Those registering for the former are classified as "regular music," while the others are classified as "special music." "Special music" students have the option of selecting such music studies as they desire by registering for them with the Director in the regular manner and at the catalogue rate of tuition.

Young women whose homes are not in Corvallis are expected to live in the dormitories, where they are under the supervision of the Preceptress. Outside rooming and boarding places may be obtained, subject to the approval of the Dean of Women. The rates for board and room are listed in the College catalogue.

Students registered for study in the regular courses of the Oregon Agricultural College School of Music are subject to the same rules and regulations as other students.

No student is permitted to omit lessons or practice without sufficient excuse and no refund will be made for absence from lessons or practice or for discontinuance, except in cases of severe personal illness; for such unavoidable absence lessons may be made up only by appointment, and before the expiration of the term.

Lessons falling on legal holidays, or on special holidays petitioned for by the student body or by special student organizations, which may be granted by the College authorities, will not be made up unless arranged for with the instructor before said holiday, and duly approved by the Director.

Students are not permitted to transfer tuition accounts to others, nor to receive credit for tuition fees beyond the assigned registration period, except in cases of severe personal illness, or similar extreme necessity, attested by the College Physician, and then only by making suitable arrangements with the Director.

Students are required to inform themselves of all rules governing the School of Music by reference to the College catalogue, the bulletin boards in the Administration Building, and special notices issued from time to time by the Director. The letter and the spirit of all regulations will be consistently and impartially enforced, and it should be definitely understood that instructors are not expected to keep students informed of their obligations.

The college year in the School of Music consists of thirty-six weeks, divided into terms of approximately twelve weeks each, the first term beginning at the opening of the College on September 21. The Summer Session offers special opportunities for intensive study in music. Announcement of the summer courses offered is by special bulletin obtainable from the Registrar.

TUITION

Private individual instruction is given in lessons of thirty minutes each, in all departments of the School of Music. Class instruction in theoretical branches is required of candidates for graduation, as specified in the outlines of courses. Terms for instruction are as follows:

Voice Culture and Singing—Professor Gaskins, private instruction:

One lesson a week, a term.....\$24.00

Two lessons a week, a term..... 48.00

Voice Culture and Singing—Genevieve Baum-Gaskins, private instruction:

One lesson a week, a term.....\$18.00

Two lessons a week, a term..... 36.00

Pianoforte—Gustav Dunkelberger, private instruction:

One lesson a week, a term.....\$24.00

Two lessons a week, a term..... 48.00

Note: An inclusive pedagogical course for teachers in pianoforte and a special course for students desiring note-reading, ear-training, rhythm, and elementary composition of melodies, may be arranged for under Mr. Dunkelberger by application to the Director.

Pianoforte—Genevieve Baum-Gaskins, private instruction:

One lesson a week, a term.....\$24.00

Two lessons a week, a term..... 48.00

Dunning system, class instruction, minimum requirement
two lessons a week, a term..... 30.00

Pianoforte—Ruth Rondeau, private instruction:

One lesson a week, a term.....\$18.00

Two lessons a week, a term..... 36.00

Elective: Instruction in Progressive Series. Two lessons
a week, a term..... 50.00

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| Organ —Genevieve Baum-Gaskins, private instruction: | |
| One lesson a week, a term..... | \$36.00 |
| Two lessons a week, a term..... | 72.00 |
| Violin, Viola —Carl Grissen, private instruction: | |
| One lesson a week, a term..... | \$24.00 |
| Two lessons a week, a term..... | 48.00 |
| Band Instruments of All Kinds —Harry Lynden Beard, private instruction: | |
| One lesson a week, a term..... | \$12.00 |
| Two lessons a week, a term..... | 24.00 |
| Mandolin, Banjo —Florence Bowden, private instruction: | |
| One lesson a week, a term..... | \$15.00 |
| Two lessons a week a term..... | 30.00 |
| Theory —Class instruction: | |
| Gustav Dunkelberger, two recitations a week, a term..... | \$ 7.50 |
| Theory —Private instruction, elective: | |
| Gustav Dunkelberger, twelve one-hour recitations..... | \$36.00 |
| Music History , Professor Gaskins, class instruction, free to students registered in the School of Music. To students not registered in the School of Music, one hour a week, a term | |
| | \$ 5.00 |

PIANO AND ORGAN PRACTICE

Rooms located in the Administration Building have been suitably furnished for the use of students wishing to practice in private. These rooms may be rented for about one-third the cost of using pianos located in private houses, and without any of the disadvantages connected therewith. The rooms have steam heat, good ventilation, electric light for night practice, and janitor service, and are furnished with good pianos, kept in tune by the College. Students living in the College dormitories are required to practice upon these pianos. Students living away from the campus may arrange with the Director for practice upon the same terms and conditions.

One pipe-organ, a new, modern Kimball two manual, concave pedal board instrument of beautiful tone, is available.

Rental Rates. The following rentals are charged for instrumental practice for each term of twelve weeks:

Piano—

| | |
|------------------------|---------|
| One hour a day..... | \$ 5.00 |
| Two hours a day..... | 7.50 |
| Three hours a day..... | 10.00 |
| Four hours a day..... | 12.50 |
| Five hours a day..... | 15.00 |

Organ—

| | |
|---|---------|
| Term of twelve weeks, one hour a day..... | \$15.00 |
| Two hours | 20.00 |
| Three hours | 25.00 |

CORRESPONDENCE

For additional information address William Frederic Gaskins,
Director of the School of Music, Room 30, Administration Building,
Oregon Agricultural College, Corvallis, Oregon.

SUMMER SESSION

- WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.
MAHLON ELLWOOD SMITH, Ph.D., Director of the Summer Session;
Dean of Service Departments.
MARY ELIZA FAWCETT, A.M., Dean of Women.
AVA BERTHA MILAM, Ph.B., A.M., Dean of the School of Home Economics.
FREDERICK BERCHTOLD, A.M., Professor of English.
JOHN FULTON, M.S., Professor of Chemistry.
WILLIAM FREDERICK GASKINS, B.M., Director of the School of Music.
HENRY CLAY BRANDON, A.M., Professor of Industrial Arts.
WILLIAM BALLANTYNE ANDERSON, Ph.D., Professor of Physics.
GEORGE ROBERT HYSLOP, B.S., Professor of Farm Crops; Chief in Farm Crops, Experiment Station.
ARTHUR LEE PECK, B.S., Professor of Landscape Gardening.
ARTHUR GEORGE BOUQUET, B.S., Professor of Vegetable Gardening.
WILLIAM JAMES GILMORE, B.S.A.E., Professor of Farm Mechanics.
FRANK HENRY SHEPHERD, A.M., Professor of Industrial Education.
JESSE FRANKLIN BRUMBAUGH, A.M., LL.B., Professor of Psychology.
ALMA GRACE JOHNSON, B.S., Professor of Household Administration.
FRANCIS LAWRENCE SNOW, Professor of Industrial Journalism.
CHARLES VLADIS RUZEK, B.S.A., Professor of Soil Fertility.
EDNA AGNES COCKS, A.M., Professor of Physical Education for Women.
ALFRED GUNN LUNN, B.S., Professor of Poultry Husbandry.
RICHARD BURR RUTHERFORD, A.B., Professor of Physical Education for Men; Director of Intercollegiate Athletics.
CHARLES BUREN MITCHELL, A.M., Professor of Public Speaking.
NATHAN FASTEN, Ph.D., Professor of Zoology and Physiology.
LUCY MAY LEWIS, A.B., B.L.S., Librarian.
HARRY CASE SEYMOUR, State Leader of Industrial Clubs.
WILLIAM EVANS LAWRENCE, B.S., Associate Professor of Plant Ecology.
HATTY ROSELLE DAHLBERG, M.S., Associate Professor of Home Economics Education.
WILLIAM HENRY ELLISON, Ph.D., Associate Professor of History.
SIGURD HARLAN PETERSON, B.A., Assistant Professor of English.
SIBYLLA HADWEN, Instructor in Household Science; Director of Women's Dormitories; Preceptress, Waldo Hall.
LOREN BURTON BALDWIN, A.M., Assistant Professor of English.

- WILLIAM HENRY DREESEN, Ph.D., Assistant Professor of Economics and Sociology.
- CHARLES JARVIS MCINTOSH, B.S., Assistant Professor of Industrial Journalism.
- LILA MORRIS O'NEALE, A.B., B.S., Assistant Professor of Household Art.
- CHARLES CURTIS RUTH, M.S., Assistant Professor of Farm Crops.
- BENJAMIN WILLIAM RODENWALD, B.S., Assistant Professor of Animal Husbandry.
- GUY LESLIE RATHBUN, M.P.E., Assistant Professor of Physical Education for Men.
- ROY HEWITT, M.A., Assistant Professor of Government and Business Law.
- AMBROSE ELLIOTT RIDENOUR, B.S., Instructor in Foundry Practice.
- KATHERINE BARBARA HAIGHT, Instructor in Home Nursing; Preceptress of Cauthorn Hall.
- MARTIN LOUIS GRANNING, Instructor in Machine Shops.
- SARA WATT PRENTISS, B.S., Instructor in Household Art.
- BERTHA ALICE WHILLOCK, B.S., Instructor in Office Training.
- HELEN MCFaul, B.A., Instructor in Household Art.
- GLENN HARTMAN HILL, Instructor in Industrial Arts.
- DONALD KENNETH MEREEN, Instructor in Industrial Arts.
- EARL DEWITT DOXSEE, B.S., Instructor in Agricultural Education.
- LULA LYTTE MAY, B.S., Instructor in Household Art.
- JOHN ALBERT VAN GROOS, M.S., Instructor in Mathematics.
- LYLE PORTER WILCOX, B.S.A., Instructor in Horticulture.
- MELISSA HUNTER, B.S., Instructor in Household Science.
- GEORGE REUBEN VARNEY, D.D., Instructor in Public Speaking.
- NORMA OLSON, Instructor in Expression and Dramatic Art.
- CLAUDE MILTON NEWLIN, A.B., Instructor in English.
- LOIS JOHNSON RANKIN, A.B., Instructor in Physical Education for Women.
- FREDERICK HENRY BERNS, Instructor in Art.
- LEE CLEVELAND BALL, Instructor in Business Administration.
- MARJORIE BALTZELL, Instructor in Art.
- BLANCHE WHITTIER STEVENS, B.S., Instructor in Household Art.
- ELYNORE SWEENEY, B.S., Instructor in Office Training.
- AMELIA BURNS, B.S., Instructor in Household Science.
- DORIS THORNELLY, Instructor in Physical Education for Women.
- WILLIAM HORNING, Instructor in Industrial Arts.
- MINNIE DE MOTT FRICK, Instructor in Office Training.
- ALTHA OPAL COOPER, B.S., Instructor in Office Training.

*Additional Instructors and Lecturers**

HENRY LAWRENCE SOUTHWICK, M.O.,

President of Emerson College of Oratory
Convocation Lecturer

STEPHEN BEASLEY LINNARD PENROSE, D.D., LL.D.,

President of Whitman College
Professor of Philosophy and Education
Convocation Lecturer

DR. CAROLINE O. HEDGER,

Medical Director of the Elizabeth McCormick Memorial Fund
Formerly on Board of Infant Welfare Society, Chicago
Representative of Chicago Women's Clubs during World War in
Belgium for control of the Typhoid Epidemic, especially among
children

Lecturer on Child Welfare

PROFESSOR THOMAS C. TRUEBLOOD,

Professor of Public Speaking, University of Michigan
Formerly President of the National Speech Arts Association, and
one of the Association's organizers
Presided at the organization of Delta Sigma Rho, national honor
society for collegiate debaters and orators
Prominent Public Reader and Lecturer
Convocation Lecturer

PROFESSOR HORACE A. EATON, Ph.D.,

Head of the Department of English, Syracuse University
Convocation Lecturer

JULIA MARSHALL RAINES

Instructor in Freehand Drawing and Design at the Cleveland
School of Art; Teachers College, Columbia University; Rhode Is-
land School of Design; Instructor, North Carolina College for
Women; University of Virginia; Agricultural College of Mississippi;
University of Tennessee; Lecturer on Costume Design and House
Decoration, Household Arts Department, University of California.
Convocation Lecturer

HENRY S. CURTIS, Ph.D.

Sometime Secretary of and Vice-President of the Playground As-
sociation of America; Supervisor of Playgrounds at Washington,
D. C.; Secretary of National Child Welfare Conference; Divisional
Director of Army Athletics with the A. E. F.
Convocation Lecturer

GALENA STOWELL

Graduate of Challis Normal School of Dancing, New York City,
and of Chicago Normal School of Physical Education. In charge
of Physical Education, Y. W. C. A., St. Louis, Mo.

*Other special lecturers will be announced later. The Synod of the
Presbyterian Church of the State of Oregon will hold its session at the
Oregon Agricultural College from July 12-19.

GENERAL INFORMATION

General facts relative to Scope, Admission, Expenses, Credits, etc., are given below. Further information of any kind, as well as any assistance that can be rendered students to plan their work in advance, or to make arrangements for coming, will gladly be furnished by the Director's office.

SCOPE

The Summer Session offers courses to meet the needs of a wide range of students and teachers with much or little previous preparation. Teachers, extension workers, students desiring either collegiate or entrance credit, and those interested in learning the practical arts of the home, the field, or the office, will find a variety of courses taught by experts.

Teachers in the grades and in secondary schools will find special methods of teaching technical courses required in the school curriculum. Experts from outside the State as well as on the regular College staff will demonstrate the latest methods of teaching Agriculture, Commerce, Home Economics, Industrial Arts, and Physical Education in elementary and high schools.

The provisions of the **Smith-Hughes Act** have created a special demand for teachers of Agriculture, Home Economics, and other vocational subjects in the high schools of Oregon and neighboring states. The Oregon Agricultural College has been designated by the State Board for Vocational Education to train teachers for this work. Although adequate training of such teachers involves full four-year courses leading to a degree, the Summer Session offers many opportunities for teachers to fit themselves more adequately to meet the requirements of the Federal law. Some teachers need additional technical training with reference to subject-matter; others need additional professional training in Education in order to qualify. In either case the Summer Session affords an opportunity to secure the necessary preparation.

Physical Education. Full provision is made in the Summer Session for a wide choice on the part of coaches and teachers, both men and women, wishing to take up Physical Education. It is possible for teachers without previous training in this field to acquire sufficient proficiency in the six weeks of the Summer Session to handle the most necessary courses in the schools during the year. A full staff of instructors will provide courses ranging from elementary gymnastics, and the coaching of the various competitive sports, to pageantry.

Education. Courses in general and technical Education have been arranged for teachers who must take additional courses in Education to satisfy requirements for **certification**.

Extension Work. Special courses in Rural Recreation and Public Speaking, in Industrial Journalism, Story Telling, Playground Methods, and other allied subjects offer special opportunities for those engaged or expecting to engage in Extension activities.

Collegiate Credit. Courses also will be offered for students who wish to make up collegiate work which they have missed, or for those who wish to shorten the time of residence by carrying some of their required subjects during the vacation period. Students who have not been graduated from high school, but who wish to secure additional credits which will count toward **college entrance**, will find courses which will meet this need.

Other Opportunities. Others, whether with or without high school or technical training of any kind, will find courses open to them in all the practical fields of **Agriculture, Homemaking, or Business**, with elementary work for those who need it, and advanced work for those who are already proficient. The wide range of courses offering practical experience in Practice House, cafeteria, laboratories, and shops; the instructional staff; and the equipment—these, and all the other facilities of the Oregon Agricultural College make the Summer Session an institution of opportunity.

ADMISSION

All students who believe that they can profit by the instruction offered will be admitted without examination or the presentation of credentials. It is presumed that all who apply for admission have a serious purpose and are of good moral character. College credit will be granted to those qualified by entrance credit to receive it, to the extent to which the work accomplished is equivalent to the standards demanded in the regular college year.

EXPENSES AND ACCOMMODATIONS

The amount of money required for six weeks attendance naturally varies with students. Some allowance must be made for incidental and personal expenses not included in the usual estimate.

The regular College registration fee of five dollars, required of all students, is the only tuition charge. Those attending less than six weeks will pay at the rate of \$1.00 a week, a part of a week

being counted as a full week. This one fee will admit students to as many courses as they care to attend during the entire session. Laboratory and shop fees are listed under each course.

The College dormitories for women will accommodate three hundred students with board and lodging. A charge for the term of nine dollars a person for a double room, or sixteen dollars for a single room, will be made to cover cost of heat, light, use of laundry, etc. The rooms are provided with bed, mattress, table, and chairs. Each student who desires to occupy one of these rooms must bring pillows, pillow-cases, sheets, blankets or comfort, bed-spread, and towels. A well equipped laundry room will be open for the use of students without extra charge. The Y. M. C. A. assists men students to find desirable accommodations in private homes adjacent to the campus.

A cafeteria will be open at Waldo Hall, with prices as low as possible, consistent with prevailing costs of supplies and service. At the cafeteria maintained during the last summer session, board averaged seven dollars a week. The expense, however, is entirely dependent upon individual choice.

The dormitories for women will be open for lodging, Sunday, June 19. Meal service will begin Sunday evening. Room charge for part of a week will be the same as for a full week.

Tenting privileges will be granted on application, without charge, to those providing their own tents. Advance notice should be sent to the Director.

Since students registered for the Practice House course (HAD 450) will live in the Practice House throughout the Summer Session, they need make no other provisions for room and board. Students registered for the course in Cafeteria Management (HS 444s) will be provided with lunches five days in the week.

Allowing \$51.00 for board and room, \$5.00 registration fee, \$1.00 for drayage on baggage, and \$10.00 for laundry and incidentals, the minimum cost for the entire six weeks may be estimated at \$67.00, exclusive of railroad fare. Those who take courses requiring textbooks or laboratory fees must make some additional allowance.

REGISTRATION

Students are requested to file a preliminary registration by filling out the Informal Registration Blank and mailing it as early as possible in order that arrangements may be made more completely for handling the work in the different departments. This application is not binding either as to attendance or choice of studies. Final registration should be made at the Director's office in the Library Building as early as possible on Monday, June 20. The

Committee on Registration will be in session from 9:00 until 12:00 and from 2:00 until 5:00 in the main reading room, Library Building. Students should consult this Committee in making out courses and schedules. Because of the shortness of the session, students should arrive in time to complete registration on Monday in order to attend the first meeting of all their classes on Tuesday. Full credit cannot be given for students entering more than one week late. No course will be offered for less than five students, but if difficulty is experienced in arranging work, the student should consult the Director.

CREDIT FOR WORK

Students whose preparatory work qualifies them may receive college credit for the work taken to the extent indicated in the descriptions of the several courses. In general, the credit for Summer Session work is approximated to that of the regular college year on the basis of three credits for five recitations a week through the session. A maximum of nine credits may be earned during the Summer Session as against sixteen and one-half credits in one term of the regular year. Credit in excess of the approved maximum may be allowed only on consent of the Director and with the provision that the student's general average for all subjects taken during the session shall be at least 85 percent.

APPOINTMENT OFFICE

Students and teachers attending the Summer Session will be assisted to find teaching positions for the following year by the School of Vocational Education, Forestry Building 201.

SOCIAL AND OTHER FEATURES

A recreational, inspirational background is necessary for the best, most productive work in the summer time, and this summer special attention will be given to the development of that spirit of friendliness and comradeship which should be a valuable part of the Summer School life. Because six weeks is so short a period, the social events and outdoor sports will be under the direction of a manager of such activities, experienced in eastern summer schools. Besides week-end social affairs on the campus, hikes, a week-end at the Coast, and an excursion to Mary's Peak will be arranged.

POPULAR LECTURES

A feature of the Summer Session is the program of addresses by speakers of national distinction. Among those already arranged for are Henry Lawrence Southwick, President of Emerson College of Oratory, who will deliver the address at the opening convocation on June 21; Dr. Caroline Hedger, Medical Director of Elizabeth McCormick Memorial Fund, of Chicago, engaged in Child Welfare work in Belgium during the war; Dr. Stephen B. L. Penrose, President of Whitman College; Professor Thomas C. Trueblood, Head of the Oratory Department, University of Michigan; and Professor Horace A. Eaton, Head of the English department, Syracuse University. Other speakers will be announced later.

From July 20 to 26 the Ellison-White Chautauqua System will be offering a program in Corvallis, which will be of interest to many of the Summer School students.

SUMMER CLIMATE

Corvallis is pleasantly situated for summer study, the average summer temperature being 77 degrees F. There is a refreshing ocean breeze every afternoon. The city water system supplies absolutely pure mountain water. The moral tone of Corvallis is on a par with its physical health and attractiveness.

COURSES OF INSTRUCTION

ARRANGEMENT OF COURSES

The courses in this Bulletin are arranged in two major groups, the first consisting of the more strictly technical or vocational departments, and the second comprising those subjects which constitute a part of any complete education and which are indispensable as foundation courses in technical education. To these are added miscellaneous or special courses. The schools or departments in the first, or Vocational group, are arranged in the Bulletin in alphabetic order, as follows: I. Agriculture. II. Commerce. III. Education. IV. Home Economics. V. Industrial Arts. VI. Industrial Journalism. VII. Physical Education. The second, or general group, consists of: VIII. Applied Arts and Sciences, under which head the different departments are arranged in alphabetic order. IX. Short Course for Boys and Girls. X. Summer School of Music.

CLASSES

Except in special cases, there are no classes scheduled to meet on Saturday.

I. AGRICULTURE

AGRICULTURAL EDUCATION

These courses are intended chiefly for two groups of students: (1) rural school teachers, supervisors, and club workers who are interested primarily in elementary agriculture; (2) those teachers who desire special training for teaching vocational agriculture in high schools. Although the students are expected to have had the subject-matter in science and agriculture, in adapting the courses in education to the needs and training of the student, subject-matter will be considered.

1. **Elementary Education in Agriculture** (AEd 421). This course is primarily for those intending to teach the subject in elementary schools. Special attention is given methods of classroom instruction, correlation of Agriculture with other subjects, use of illustrative material, and the connecting of instruction with the practical work at home. Emphasis is placed upon simple exercises and demonstrations of a practical nature. This work will be connected closely with boys' and girls' club work.

Five periods; 3 credits.

E. D. Dorsee

2. **Secondary Education in Agriculture** (AEd 402). The principles of education as applied to the teaching of vocational Agriculture in secondary schools. Aims, methods, and materials as adapted to the practical training of students over fourteen years of age are considered, including organization of courses, collection and use of illustrative and reference materials, and the phases of classroom and laboratory instruction. Emphasis is given supervision of practical work on the farm.

Five periods; 3 credits.

E. D. Dorsee

3. **Club Work** (AEd 432s). A lecture course in club work, for the training of paid county club leaders, covering the history and scope of the work and its organization, projects, a program of work, records, reports, and training of judging and demonstration teams.

Five periods; 3 credits.

E. D. Dorsee

TECHNICAL AGRICULTURE

All departments of the School of Agriculture are at the service of Summer Session students. Courses will be arranged to meet the needs of groups of students whether they may be prospective teachers or farmers. The following courses are suggestive of courses which will be adapted to meet the needs of those who may desire them.

1. **AH 111. Stock Judging I.** The various types of farm animals are studied by score cards and cooperative methods, and the student is made familiar with the desirable and undesirable types of beef and dairy cattle, sheep, swine, and horses.

Two recitations; 4 three-hour laboratory periods; 3 credits.

B. W. Rodenwold

2. **Vegetable Gardening** (Hrt 221s). A course dealing with the fundamental principles and practices of growing vegetables, paying particular attention to methods of production on a small, rather than an extensive, basis. Laboratory practicums include study and actual handling of vegetables in College testing grounds, student gardens, and greenhouses.

Daily lectures and practicums; 3 credits.

A. G. Bouquet

3. **Poultry Husbandry** (PH 201). Includes a general discussion of breeds and varieties of poultry and of the practical application of the principles of incubation, brooding, rearing, feeding, breeding for egg production, housing, marketing, diseases, and general poultry management. Laboratory work includes a study of incubators and brooders; poultry houses and appliances; poultry feeds; study of eggs; candling and grading eggs; preserving eggs; methods of selecting laying hens and breeding fowls. The College poultry plant offers exceptional opportunities for study of practical poultry keeping. As far as possible students who desire it will be given practical work to do on the College farm.

Three lectures; 2 laboratory periods; 3 credits. Fee \$1.00.

A. G. Lunn

4. **Teaching Staple Crop Production to Rural and High School Pupils.** The presentation of practical phases of crop production and improvement; methods and material for laboratory work; use of field and laboratory demonstrations; field trips; chart, blackboard, and other illustrative material; material and methods for boys' and girls' club work; important phases of production that lend themselves to rural educational work. This course is useful to rural and Smith-Hughes teachers.

Three lectures; 3 two-hour laboratory periods; 3 credits. Fee \$1.00.

G. R. Hyslop, C. C. Ruth

5. **Landscape Gardening for School Grounds and Country Homes** (Hrt 231). This course aims to prepare the student to take a leading and intelligent part in the improvement of country home grounds, school grounds, church grounds, and areas of public nature. The course includes lectures on simple principles of design of grounds, followed by actual practice in the drafting room;

out-of-door trips for familiarity with ornamental trees, shrubs, and vines; and studies in plant propagation, growth, and maintenance.

Two lectures; 3 laboratory periods; 3 credits. *A. L. Peck*

6. **Elements of Horticulture** (Hrt 100s). This course is to give a student enough training in horticulture to enable him to care for the home orchard as well as to understand some of the fundamentals of commercial orcharding. The course deals with such subjects as choosing the orchard; purchasing of nursery stock; planting the orchard; tillage; spraying; intercropping; and pruning.

Three lectures; 3 two-hour laboratory periods; 3 credits. Fee \$1.00. Text: Sears, Productive Orchardng. *L. P. Wilcox*

7. **Farm Mechanics** (FM 111 or 112). This course deals with types of mechanism of various machines, farm lighting plants, farm water-supply systems, concrete construction, gas engines, tractors, automobiles, and accessories, plow adjustments and plow contests, and similar subjects.

Three lectures; 2 three-hour laboratory periods; 3 credits. Fee \$1.00. *W. J. Gilmore*

8. **Soils** (SlS 201). History and origin of soils; fertility and composition; exhaustion and replenishment; physical properties and constituents; relative value and importance; handling soils; practice in judging soil types; effect upon soils of tillage, manuring, crop rotation, drainage, and irrigation. Adapted for teachers of Agriculture.

Three lectures; 1 recitation; 2 three-hour laboratory periods; 3 credits. Fee \$2.00. Deposit \$2.00. *C. V. Ruzick*

II. COMMERCE

Each of the four departments of the School of Commerce offers courses both for teachers and general students. As indicated below, several of the courses are designed primarily for elementary and high-school teachers.

The departments of Business Administration and Stenography and Office Training offer work emphasizing methods in teaching, as well as practical instruction in the respective subjects. The Government and Business Law courses will also appeal to both teachers and general students. The courses in Economics are offered with the expectation that they will appeal to any or all of the following classes:

- (1) The citizen of Oregon.
- (2) The college student.
- (3) Farmers and those interested in farming.
- (4) Teachers in public schools.
- (5) Those desiring training in Office Training and Stenography.

COMMERCIAL EDUCATION

1. **Secondary Education in Commerce** (CEd 451). Principles of education as applied to the teaching of shorthand, typewriting, business English, and bookkeeping in high schools, rapid review of subject-matter, with model lessons in each subject; lectures covering aims, materials, methods of presentation, organization of courses and arrangement of curriculum.

Five periods; 3 credits.

Bertha Whillock

2. **Secondary Education in Commerce** (CEd 452). Same as CEd 451, with special methods in teaching Accounting, Business Law, Economics, and Commercial Geography.

Five periods; 3 credits.

Bertha Whillock

BUSINESS ADMINISTRATION

1. **Introduction to Accounting** (BA 101). A thorough but rapid study of the general principles of bookkeeping. The aim of this course is to afford those students entering the Vocational or Degree curricula in Commerce, who have not had a year of bookkeeping, an opportunity to secure preparation which will enable them to carry BA 102.

Five periods; 3 credits. Fee \$1.00.

L. C. Ball

2. **Teachers' Course in Bookkeeping** (BA 104s). A course for high-school teachers of bookkeeping, based upon the State Course of Study and the bookkeeping text followed in Oregon. Methods of presenting the subject of bookkeeping most effectively to high-school students will receive emphasis. A thorough knowledge of bookkeeping based upon at least a year's study or teaching is a prerequisite for this course.

Three periods; 2 credits. Fee \$0.50.

L. C. Ball

3. **Penmanship** (BA 11s). A mastery of the best forms of business writing and lettering.

Ten periods; 3 credits.

Minnie D. Frick

ECONOMICS AND SOCIOLOGY

1. **Introduction to Economics** (ES 391). Abbreviated course covering the elementary problems of our industrial and commercial organization, the nature of wealth, its production and consumption, the different forms in which it is found, conditions underlying successful commerce and manufacturing.

Five periods; 3 credits.

W. H. Dreesen

2. **Rural Sociology** (ES 464s). The problems of the rural family, rural church, rural societies and organizations, and the state so far as it is an ally of rural welfare; community ideals pertaining to labor, leisure, art, literature, recreation, marriage, divorce, crime, correction; relative social standing of the city and the country; programs tending to improve rural social life; rural social survey; rural construction. Text-book, assigned readings, lectures, and discussions.

Five periods; 3 credits.

W. H. Dreesen

3. **Commercial Geography** (ES 101s). Physiographic basis of commerce and industry; natural resources of the different countries of the world; geographic distribution of labor and industry as determined by natural conditions such as climate, topography, soil, and mineral resources. Specimens from the Commercial Museum are used by the students. (Given alternate years. Given 1922.)

Five periods; 3 credits.

POLITICAL SCIENCE

1. **National Government** (PS 301). Consideration of the organization, functions, and present-day problems of the American Federal Government. Methods will be emphasized. Illustrative material and bibliography for teachers of Civics and History will be discussed.

Five periods; 3 credits. Text: Munro, Government of the United States.

R. R. Hewitt

2. **State and Local Government** (PS 302). Consideration of the organization, functions, and present-day problems of state, county, and township government in the United States. The government of Oregon receives special attention.

Five periods; 3 credits. Text: Munro, Government of the United States.

R. R. Hewitt

3. **Business Law** (PS 163). A short course in the laws of business, covering briefly much the same field as PS 201 and PS 202, but applied particularly to the special needs of students. Recitations and discussions.

Five periods a week; 3 credits. Text: Huffcut, Elements of Business Law.

R. R. Hewitt

OFFICE TRAINING AND STENOGRAPHY

1. **Elementary Stenography** (OT 101). Theory of Manual, Gregg Shorthand, first eight lessons covered thoroughly. Short-hand penmanship given special attention.

Ten periods; 3 credits.

Minnie D. Frick

2. **Elementary Stenography** (OT 103). Theory of manual completed; thorough review of principles; attention to phrase writing; dictation.

Prerequisite: OT 102. Ten periods; 3 credits.

Minnie D. Frick

3. **Elementary Typing** (OT 111). Touch typing. Theory and practice of touch typing, covering mastery of alphabet and numerals; finger gymnastics; rhythm drills; dictation exercises.

Ten periods; 2 credits.

Altha O. Cooper

4. **Office Methods and Appliances**. Study and use of modern office appliances such as mimeoscope, mimeograph, dictaphones, calculating and bookkeeping devices, adding machines; filing and office routine.

Ten periods; 2 credits.

Elywore D. Sweeney

5. **Expert Typing**. Designed to give expert finger training. Emphasis on artistic typing and rapid tabulating, billing and manifold, with absolute accuracy. Speed of 65 words a minute required upon completion.

Ten periods; 2 credits.

Altha O. Cooper

III. EDUCATION AND PSYCHOLOGY.

For special courses in Agricultural Education, Commercial Education, Industrial Arts Education, and Home Economics Education, see the descriptions of courses given under the respective heads, Agriculture, Commerce, Industrial Arts, and Home Economics. For example, for "Elementary Education in Agriculture" see the general section devoted to "Agriculture."

1. **Elementary Psychology** (Psy 301). A preparatory course in the fundamentals of mental life from the functional standpoint; emphasis upon the application of psychical laws to the ordinary affairs of life.

Five periods; 3 credits.

J. F. Brumbaugh

2. **Ethics** (Eth 482). Meaning of our moral conceptions and principles; why they are binding; whence they are derived; a consideration of every-day customs and practices in the light of these principles; study of professional codes.

Five periods; 3 credits.

G. R. Varney

3. **Principles of Education** (Psy 473s). This course expounds the general problem of education and the merits and demerits of the various theories of education as they have succeeded each other, together with the numerous principles which have sprung from such

doctrines and the modern reinterpretations of aims and practices connected therewith.

Five periods; 3 credits.

G. R. Varney

4. **Vocational Education** (Ed 323). Arranged to meet the needs of those preparing to teach any phase of vocational education. History and function of vocational education; development in the United States; requirements of Federal-aided schools and departments under the Smith-Hughes Act.

Four periods; 2 credits.

F. H. Shepherd

5. **History of Education** (Ed 341). A general review of the growth and development of education and its relation to the civilization of the times; particular attention given to the rise of industrial education in Europe and America, and its place in the social and political life of the country.

Five periods; 3 credits.

J. F. Brumbaugh

6. **Vocational Guidance** (Ed 431). The purpose of this course is to encourage school officers and teachers to forward the vocational guidance movement in public schools. It includes a survey of the development of various efforts which have been made within and without the schools to secure a more rational adjustment between the educational institutions and the usual vocational experiences of young people as they leave school and enter occupations. Such topics as guidance, placement, employment supervision, vocational analysis, analysis of personal characteristics, cumulative school records, vocational guidance surveys, and vocational bureaus will be discussed.

F. H. Shepherd

Four periods; 2 credits.

IV. HOME ECONOMICS

The summer courses described in the succeeding pages may be classified, according to their purpose, into five groups as follows:

(1) **Courses for Home Economics Teachers desiring further professional development.** Many Home Economics teachers recognize the need of acquiring more skill and experience in designing and fitting; in modern and improved processes and methods in dressmaking; in remodeling garments; in choosing materials, trimmings, and designs; in textiles, hygiene of clothing, care and cost of clothing, etc. Others recognize the need of advanced work in foods and nutrition. Lack of knowledge of foods and nutrition is directly or indirectly responsible for a large share of the illness that exists. Furthermore, the information afforded by work in this field enables teachers to handle successfully the school lunch

and solve the problems in diet and disease which constantly confront the teacher. Many are coming to recognize the need of more knowledge of scientific management in operating the home, solving the problems of household thrift, and proper spending of income. Recognition of the importance of thrift is reflected by the Government thrift campaign. The teaching of thrift lies with the homemaker and the teacher.

That there is a constant need of more knowledge of child care and public health is evident from the increasing amount of malnutrition not only of adults but of children. Approximately one-third of the children in the United States are malnourished.

A special effort has been made to offer courses that will qualify for teaching in **Smith-Hughes** schools. Many teachers already in the field lack certain requirements for Smith-Hughes teaching. Among others, courses in Practice House and in Cafeteria Management will be offered to enable these teachers to meet the requirement.

(2) **Courses for teachers of Home Economics who wish to enter the extension field, particularly in Home Demonstration work.** The field for extension work is growing rapidly and the demand is very much greater than the supply. Successful Home Economics teachers who wish to enter the extension field should have special training for the work. This special training can be obtained through study at the summer sessions.

(3) **Courses for women, who have a knowledge of the fundamentals of Home Economics, but who desire more extended or more specific training.** These courses are for women who know the essentials of sewing but who desire a training in appreciation, a knowledge which will enable them to choose materials, trimmings, and styles in hats and garments which are becoming, appropriate, and artistic, and who wish to develop more independence and skill in cutting, fitting, constructing, and remodeling garments for themselves, or for children.

Many women who have a knowledge of cookery yet desire a knowledge of food values and the principles underlying cookery so that their families may be scientifically fed may find courses of interest. Some women desire training in fancy cookery. Through a demonstration course unusual and fancy cookery will be dealt with. This will be of special interest to housewives.

(4) **Courses for students in the School of Home Economics who may wish to carry collegiate work during the Summer Session, thereby shortening or enriching their collegiate course.**

5. **Courses for young women registered in the School of Commerce and other schools** during the college year who may wish to improve the opportunity during the Summer Session of obtaining some work in Home Economics.

Equipment. The School of Home Economics of the Oregon Agricultural College is classed with the leading schools of its kind in the United States. Its special building, two of the three units of which are now in use, is well equipped with laboratories, home kitchens, dining-rooms, living-rooms, etc. The school established one of the first practice houses in the country, and has worked out a course through a series of years that is meeting the needs of the students.

Special Lectures. Special lectures will be introduced during the summer session. These lectures will deal with dairy lunch room arrangement, dietitian's work in hospitals and institutions, cafeteria and tea-room management, nutrition centers in the United States and foreign fields, infant and children's clothing shops, and house decoration. Men and women of broad experience in these subjects have been secured for these lectures.

HOME ECONOMICS EDUCATION

1. **Secondary Education in Home Economics** (HEd 304). A brief history of Home Economics instruction and of the development of elementary and secondary Home Economics; equipment and organization of Home Economics departments. A careful study of the means and methods of Home Economics instruction; outlines of courses of study.

Required of all students preparing to teach Home Economics; five periods; 3 credits. *Hatty R. Dahlberg*

2. **Secondary Education in Home Economics** (HEd 305). A continuation of HEd 304. Minimum number of students, eight. Five periods; 3 credits. *Hatty R. Dahlberg*

3. **Special Problems of the High School Teacher** (HEd Special). Open only to experienced teachers. Problems will be chosen to meet the needs of the group.

Two periods; four hours outside preparation; 1 credit.

Hatty R. Dahlberg

HOUSEHOLD ADMINISTRATION

1. **Sanitation and Public Health** (HAd 300). The house as a factor in health; situation, surroundings; ventilation, heating, lighting, plumbing, and drainage. The responsibility of the individual

and of the home in relation to community well-being. Investigation and discussion of sanitary conditions from both practical and scientific standpoints, with special reference to public health and personal hygiene; school, rural, and urban problems and conditions. Designed for the homemaker and teacher of Home Economics.

Prerequisite: Elementary Bacteriology. Five periods; 13 hours outside preparation; 3 credits.
Sara W. Prentiss

2. Child Care (Special). This course will be centered on standards of health and the rational care of children at various ages, and will include some detailed instruction in nutrition of school children with practical work in chart making.

Ten periods a week for the first three weeks; 3 credits.

Caroline Hedger, M. D.

3. Home Nursing (HAd 430). Care of the patient under home conditions; symptoms; first aid to the injured; management of communicable diseases. For the homemaker and teacher of Home Economics.

Five periods; 9 hours outside preparation; 3 credits.

Katherine B. Haight

3. Household Management (HAd 440). (Parallel with Practice Housekeeping, HAd 450). Application of the principles of scientific management to the home; study of the management of household operations and finances; study of family and community relationships. For homemakers and teachers of Home Economics.

Prerequisite: Economics. Five periods a week; 3 credits.

A. Grace Johnson

4. Practice Housekeeping (HAd 450). (Parallel with Household Management, HAd 440). This course deals with the problems of the homemaker. It puts into actual practice under actual household conditions the knowledge gained in all other Home Economics courses, including child care. Students reside in the house for the entire period, of six weeks, and take turns in doing the various duties involved in the management of the house. Special attention is given to scientific management of the income as well as the various operations of the household. Other courses which do not have long laboratory hours may be carried at the same time. For homemakers and teachers of Home Economics, especially those desiring to teach in Smith-Hughes high schools.

Prerequisite: HS 213 or equivalent. Daily house work; 4 credits. Fee approximately \$6.00 a week for living expenses.

A. Grace Johnson

HOUSEHOLD ART

1. **Dressmaking for Teachers** (HA 311s). Planning, designing, and constructing different types of garments with the purpose of developing good taste in selection of materials, combinations, colors, decorations, designs, etc., and of increasing the speed, skill, efficiency, and initiative of the worker.

Five three-hour laboratory periods; 3 hours outside work; 3 credits. Fee \$1.00. *Lila O'Neale*

2. **Textiles and Clothing** (HA 113). Designing and constructing of simple silk dresses; remodeling problem in wool; art blouse; pattern modeling; emphasis on color, design, and texture; textile study of silk, wool, and minor fibers.

Prerequisite: HA 112 or equivalent. Four lectures; 5 three-hour laboratory periods; 5 hours outside preparation; 4 credits. Fee \$1.00. *Blanche W. Stevens*

3. **Beginning Millinery** (HA 321). Designing and constructing of frames; methods of covering; trimming; renovating.

Five three-hour laboratory periods; 3 hours outside preparation; *Helen McFaul*

4. **Applied Design** (HA 435). Decorative art involving careful consideration of line, form, proportion, and color; original designs executed in various media for clothing and house-furnishing problems; lamp-shade making, weaving, embroidery, tie-dyeing, batik, and stencil decoration for textiles.

Five three-hour laboratory periods; 3 hours outside preparation; 3 credits. Fee \$2.00. *Lula May*

5. **The House** (HA 438). Planning and furnishing of the home from the standpoint of art, economy, convenience, and sanitation.

Five lectures; 2 two-hour laboratory periods; 9 hours outside preparation; 3 credits. Fee \$1.00. *Julia Raines*

6. **Costume Design** (HA 331). Study of proportions of figure, color, types, and personality; effects of line, proportion, color, and form in dress; problems in design and modeling based on art principles and historic study.

Five lectures; 4 two-hour laboratory periods; 5 hours outside preparation; 3 credits. Fee \$1.50. *Julia Raines*

HOUSEHOLD SCIENCE

1. **Foods and Cookery** (HS 101s). For women who are unable to enter the regular courses in foods offered in School of Home Economics and students who have not had food work in high

school. The instruction covers food preservation; study of foods, their selection and preparation; food requirements; planning and serving of meals and computation of their cost.

Five three-hour laboratory periods; 3 credits. Fee \$6.00.

Sara W. Prentiss

2. **Foods and Cookery** (HS 213). A continuation of HS 212 with stress upon meal planning and serving.

Prerequisites: HS 212. Four three-hour laboratory periods; 4 recitations; 4 credits. Fee \$4.00.

Amelia Burns

3. **Dormitory and Cafeteria Management** (HS 444s). Practice in handling food materials in large quantities; methods of record keeping; planning equipment of large institutions; cost of replacement; linens, sanitation, service. Practical work will be given in the College dormitories and cafeteria. The course is limited to eight students and will not be given for fewer than six.

One lecture; 18 hours laboratory work; 3 credits.

Melissa Hunter

4. **Camp Cookery** (HS 450). A course designed to give advanced students of Home Economics training in application of principles of cookery to conditions found in camp. This course will be of special interest to teachers and leaders of Boy Scouts, Girl Scouts, or Camp-fire Girls.

Two three-hour laboratory periods; 1 credit. Fee \$2.50.

Amelia Burns, Melissa Hunter

V. INDUSTRIAL EDUCATION AND INDUSTRIAL ARTS

INDUSTRIAL EDUCATION

The courses listed below and those in Industrial Arts are planned to fit the needs of both Manual Training and vocational teachers in Trades and Industries. Teaching principles and methods will also be given to those who have had little or no teaching experience.

1. **Special Methods in Trades and Industries** (IEd 303s). The organization, administration, and teaching of industrial subjects to conform to the requirements of the Smith-Hughes Act; investigation into the values of different elements of selected trades or industries for the purpose of selecting a well-balanced course of study; lectures, readings, discussions, and written reports.

Five periods; 3 credits.

F. H. Shepherd

2. **Special Methods in Manual Training** (IEd 343s). A careful, detailed study of the public school courses of study in Manual

Training in its various relations; model courses of study for both elementary and secondary grades outlined; plans for desirable equipment for shop and classroom.

Five periods; 3 credits.

F. H. Shepherd

INDUSTRIAL ARTS

These courses are adapted to the needs of those who are preparing to be special teachers and of special teachers who have good preparation but who realize the necessity of getting new ideas and of talking over problems with educational leaders and with fellow teachers.

1. **Shop Drawing, Elementary** (IA 191s). A course for those who desire a working knowledge of drawing as applied to manual and industrial arts work. In the beginning the instruction deals with the elements of drawing, the use of drawing instruments, lettering, general construction, methods of representation, and free-hand sketching. Drawings are made of pieces of furniture and other articles to be worked out in the woodworking courses.

Ten periods; 3 credits.

H. C. Brandon

2. **Shop Drawing and Furniture Design** (IA 193s). This course is open to those who have had the elementary course or its equivalent. Attention is given to the design of good pieces of furniture, of which working drawings are made. Different methods of projection are used.

Ten periods; 3 credits.

H. C. Brandon

3. **Mechanical Drawing** (ME 111). The use of instruments and elementary principles of mechanical drawing are taught by a graded series of plates, including simple practice sheets, principles of orthographic projection, etc., supplemented by recitations and lectures from a standard text. As soon as practicable the copy sheets are discontinued and the student is required to make sketches and working drawings of typical machine details, such as pulleys, fly wheels, crank shafts, pump details, etc., from actual machines available in shops and drawing room. In addition, special drill in free-hand lettering is given at the beginning of each period throughout the course.

Ten periods; 3 credits.

H. C. Brandon

4. **Woodworking, Elementary** (IA 121s). A course intended for those who wish to teach woodworking in the grammar grades, consisting of lectures and recitation work upon the proper use of tools, a study of the growth and structure of woods, shrinkage, warpage, and seasoning of timber, staining and finishing. Considerable attention is given to the study of shop methods and of

equipment. The shop work consists of practice in use of hand tools such as are found in the average manual-training shop. Practical, well-designed pieces of furniture or other articles conforming to the State Course of Study are worked out.

Ten periods; 3 credits. Fee \$2.00. Deposit \$1.00.

H. C. Brandon

5. **Woodworking, Advanced** (IA 114s). This course is intended for those students or teachers who have had the elementary course or its equivalent, and for others who want a more intimate knowledge of the technique of woodworking. Considerable opportunity is afforded the student to do the kind of work in which he is interested. The work consists of theory and practice in cabinet-making, including case construction, veneering, table construction, etc. This work involves the care and operation of woodworking machines. The articles which the students make will be finished, giving practice in staining, filling, French polishing, waxing, and varnishing.

Ten periods; 3 credits. Fee \$2.00. Deposit \$1.00.

H. C. Brandon

6. **Carpentry Construction** (IA 222). Correct use of the steel square in the laying out of practical carpenter work, window-sills, door-sills, bay and circular windows, steps, stairs, etc.; detailed construction of window and door frames, sills, caps; relation of rough frame work to interior and exterior finish; practice in reading plans; making out of material bills and estimates of the cost of material and labor; and the construction of a building on a reduced scale. If time permits a full-sized building will be constructed.

Ten periods (fee \$2.00) or 20 periods (fee \$4.00); 3 credits. Deposit \$1.00.

D. K. Mereen

7. **Wood Finishing and Furniture Upholstering**. The work in wood finishing involves lectures and shop work in the following subjects: preparation of wood surfaces; use and application of stains and fillers and surface coats, such as wax, shellac, and varnish, including French polishing and varnish rubbing. The work in upholstering involves upholstering of foot stools and other simple pieces of furniture, followed by study and practice in tying, stuffing, and covering of spring cushions.

Ten periods; 3 credits. Fee \$2.00.

H. C. Brandon

8. **Blacksmithing, Elementary** (IA 152s). The student is taught to make and manage a fire, to shape iron by bending, upsetting, drawing, and welding. Useful articles are made, such as hooks,

staples, rings, clevises, and chains. Considerable attention is given to shop equipment.

Ten periods; 3 credits. Fee \$2.00.

W. H. Horning

9. **Blacksmithing, Advanced** (IA 252). For those having an elementary knowledge of blacksmithing considerable attention is given to the making of tools and to the treatment of steel.

Ten periods; 3 credits. Fee \$2.00.

W. H. Horning

10. **Hammered Metal Work** (IA 352). This course consists of hand-wrought metal work including hard and soft soldering, the formation of bowls and trays, boxes, lamp shades, furniture fittings, etc.

Ten periods; 3 credits. Fee \$2.00.

W. H. Horning

11. **Machine Shop Practice, Elementary** (IA 262s). Problems are given involving basic principles of machine shop practice including the making of projects in bench work requiring chipping, filing, drilling, tapping, and fitting; of drill work dealing with drill grinding, drill speed feeds, and set-up work for rapid production; of lathe work consisting of centering, turning, straight and taper turning, chucking, boring, drilling, threading and eccentric turning; of shape-work covering plain and irregular surfaces, key-seating. Discussions and lectures are held on the use and operation of the various machines as applied to high-school shop work.

Ten periods; 3 credits. Fee \$2.00. Deposit \$1.00. *G. H. Hill*

12. **Machine Shop Practice, Advanced** (IA 461s, 462s). Work is offered involving the use of milling machines, lathes, planers, and other standard machines; opportunity being given also to make parts of machines, such as emery grinders, gas engines, lathes, etc. The student has practice in installing line shafting, babbitting, bearings, belt lacing, etc., and opportunity to specialize on that particular machine in which he is interested. Stress is laid upon the wide range of uses to which a small shop equipment can be put, and lectures and discussions deal with shop equipment and problems of high-school machine shops.

Prerequisite: Elementary Machine Shop Practice. Ten periods; 3 credits. Fee \$2.00. Deposit \$1.50. *G. H. Hill*

13. **Auto Mechanics** (IA 181s). This course is intended for those students who wish an intimate knowledge of the process of overhauling and repairing of automobiles. Considerable attention is given to the types of construction as employed in machines of different manufacturers. Machines are taken apart and overhauled by the students.

Ten periods; 3 credits. Fee \$2.00.

M. L. Granning

14. **Foundry Practice** (IA 141s). This course includes a study of foundry equipment; care and management of cupolas; mixing and melting of iron; molding in green and dry sand; preparation of cores; casting in iron and brass.

Ten periods; 3 credits. Fee \$2.00.

A. E. Ridenour

VI. INDUSTRIAL JOURNALISM

Elementary Industrial Journalism (IJ 200). The course is intended to give the student practical experience in the fundamentals of news writing. It will be of value (1) for teachers who are called upon to supervise the publication of school periodicals or take charge of the preparation of copy for the school news column of local newspapers; (2) for county agents and home demonstration agents who desire training for the work of editing the Farm Bureau News. Students will assist in the preparation and editing of copy for the weekly Summer Session News. Methods of obtaining news of various types, the writing of the lead, and the general style of the news story are carefully explained. Requirements of individual students are considered.

Five periods; 3 credits.

F. L. Snow, C. J. McIntosh

VII. PHYSICAL EDUCATION

The opening of the new 100-by-50-feet swimming pool, the use of both Men's and Women's Gymnasiums, and the varied program of courses for both men and women, mark a development in the summer work in Physical Education.

Fees. Each student registering for work in Physical Education will be charged a general fee of \$1.00 to cover cost of soap, towels, showers, etc. A small additional fee will be charged for use of swimming pool.

FOR MEN

The department of Physical Education for Men has frequent requests to recommend men for positions in which, besides teaching various academic subjects, they shall act as coaches of the various scholastic sports. The following courses are designed to qualify men for such positions. Students should have had some experience, however limited, either in coaching or in competitive sports. The six weeks work cannot in every case qualify for successful coaching, but it cannot fail to be of value to those who are fitted for the work.

The Staff will include Coach Rutherford and Assistant Professor Rathbun.

1. **Football.** The theoretical work will take up the rules from the standpoint of coach, players, and officials; the several styles of offense and defense with consideration of their special strengths and weaknesses; generalship and strategy. The practical work will include training, conditioning, and player's equipment; punting, the various kinds of kicking, tackling dummy and charging sled; special drills for linemen, ends, and backs; interference and team work; fundamental plays, freak plays, and signal systems. Lectures and practical work.

Two two-hour periods; 3 credits.

R. B. Rutherford

2. **Basket-ball.** Instruction will be given in basket-ball with the idea of fitting men to coach. The course will cover passing, goal throwing, dribbling, team play, how to condition a team, and the different styles of play used by the leading coaches.

Two two-hour periods; 3 credits.

R. B. Rutherford

3. **Baseball.** Theory and practice in batting; base running; proper methods of fielding each position; team work and coaching methods; study of the rules; physical condition; methods of indoor practice.

Two two-hour periods; 2 credits.

G. L. Rathbun

4. **Track and Field Athletics.** Instruction and practical demonstration in starting, sprinting, distance running, hurdling, high and broad jumping, pole vaulting, shot putting, and discus; practical talks on methods of preparing contestants for different athletic events; adaptations to individual peculiarities; rules of competition; study of physical condition, including endurance, speed, fatigue, and all means of training for condition; work is assigned for the promotion, management and officiating of games and meets. Lectures and practical work.

Two two-hour periods; 2 credits.

G. L. Rathbun

5. **Swimming.** Elementary and advanced courses in the various strokes will be taken up together with simple and fancy diving; also a course in life-saving.

Three hours; 1½ credits. Fee to be arranged.

R. B. Rutherford, G. L. Rathbun

6. **Training.** Theories of training, massage, treatment of sprains, bruises, bandaging, and first aid. Lectures and practical work.

Three periods; 1 credit.

G. L. Rathbun

7. **Tennis.** Theory and practice together with a course in organizing tennis clubs, and management and organization of tournaments.

Two periods; ½ credit.

G. L. Rathbun, R. B. Rutherford

8. **Schoolroom Games and Gymnastics for Rural School Teachers.** This course outlines the work for schools in which all grades take their gymnastic work together.

Four periods; 2 credits.

G. L. Rathbun

9. **Elementary Gymnastics, Calisthenics** and light apparatus work for men exclusively.

Three periods; 1 credit.

R. B. Rutherford, G. L. Rathbun

FOR WOMEN

The work in Physical Education for Women is outlined for students and teachers wishing training for work in elementary schools, high schools, and playgrounds. These courses aim to help the teachers generally throughout the State as well as special teachers in Physical Education.

Staff. The courses are taught by the regular members of the department under the direction of Professor Edna A. Cocks.

Supervisors and Extension Workers will find such practical courses as 3 (PEw 131b), 12 (PEw 375), and 17 (PEw 472), adapted to their needs in organization of recreation and community gatherings. Attention is also called to courses in Rural Entertainment, Story Telling, Public Speaking, Industrial Journalism, Rural Sociology, and other allied subjects to be found in their appropriate departments.

Teachers untrained in Physical Education wishing to take up this work in high schools or elementary schools will find the program of courses they should take at the conclusion of the list of courses below.

Outfit. Women will require for the regular gymnasium work and dancing classes and for basket-ball the regulation black gymnasium suit or middy and bloomers, with black hose and black gymnasium or black tennis shoes. For aesthetic dancing the ballet shoe is worn. Suits may be obtained through the gymnasium office. For field and athletic work a full, short, white skirt and middy, with tennis or sport shoes are worn.

Practical Courses

1. **Elementary Gymnastics** (PEw 111s). A course in Swedish gymnastics, combining floor and apparatus work with training in correct posture and breathing.

Five periods; 1 credit.

Ruth Hjertaas

2. **Elementary Aesthetic Dancing** (PEw 131as). Aesthetic technique and practice of rhythmic movements; simple aesthetic dances.

Five periods for first three weeks; $\frac{1}{2}$ credit. *Ruth Hjertaas*

3. **Elementary Folk Dancing** (PEw 131bs). The simple national folk dances of all nations.

Five periods for the last three weeks; $\frac{1}{2}$ credit. *Ruth Hjertaas*

4. **Outdoor Sports** (PEw 141s). (a) Tennis, first three weeks; 5 periods; $\frac{1}{2}$ credit. (b) Hockey and (g) Track Athletics and Volley ball, last three weeks; 5 periods; $\frac{1}{2}$ credit. (c) Basket-ball, first three weeks; 5 periods; $\frac{1}{2}$ credit. (d) Baseball, last three weeks; 5 periods; $\frac{1}{2}$ credit.

Lois Rankin

5. **Elementary Swimming** (PEw 151s). The teaching of the ordinary back stroke, side stroke, breast stroke, and simple diving.

Five periods; 1 credit. *Lois Rankin*

6. **Advanced Gymnastics and Light Apparatus** (PEw 211s). A more advanced course in general gymnastics for students who have had elementary gymnastics.

Five periods; 1 credit. *Ruth Hjertaas*

7. **Advanced Swimming** (PEw 252s). The teaching of more intricate strokes, fancy diving, fancy swimming, and life-saving.

Five periods; 1 credit. *Lois Rankin*

8. **Advanced Aesthetic Dancing** (PEw 331as). For students who have had Elementary Aesthetic Dancing.

Five periods for last three weeks; $\frac{1}{2}$ credit. *Ruth Hjertaas*

9. **Advanced Folk Dancing** (PEw 331bs). Continuation of Elementary Folk Dancing.

Five periods for first three weeks; $\frac{1}{2}$ credit. *Ruth Hjertaas*

Theoretic Courses

10. **Hygiene and Sanitary Science** (PEw 423s). This course takes up the vital points in hygiene and sanitation and includes the theory of teaching the subject in elementary and high schools.

Five periods; 3 credits. *Edna A. Cocks*

11. **Kinesiology** (PEw 344). A study of the anatomy of the motor organs with special reference to joint and muscular development.

Five periods; 3 credits. *Doris Thornely*

12. Playground and Gymnastic Games (PEw 375). School games; dramatic and singing games; lectures on the theory of games.

Five periods; 3 credits.

Doris Thornely

13. Pageantry and Community Recreation (PEw 473s). How to conduct pageants; kinds and development of pageants; community recreation necessary for leaders in community work.

Five periods; 3 credits.

Edna A. Cocks

14. Theory and Coaching of Athletic Sports for Women (PEw 376s). Includes all organized sports and track athletics, with lectures and reference reading.

Five periods; 3 credits.

Lois Rankin

15. Public School Methods in Physical Education (PEw 461s). Interpretation of State "Course in Physical Instruction."

Five periods; 3 credits.

Doris Thornely

16. Practice Teaching (PEw 464s). This course is to be taken in connection with course 15 above, giving practical application of the principles of Physical Education.

Five periods; 2 credits.

Doris Thornely

17. Organization and Administration of Physical Education and Recreation (PEw 472). Development, organization, and management of physical education; the playground movement, construction and equipment; use of apparatus; government and discipline.

Five periods; 3 credits.

Edna A. Cocks

Special Training Courses

Students untrained in physical education needing such training for work in high schools or elementary schools should take such of the following work as the Director of this department advises:

1. Elementary Gymnastics (PEw 111s).
2. Elementary Aesthetic Dancing (PEw 131as) and 3. Elementary Folk Dancing (PEw 131bs).
4. Tennis, Hockey, Basket-ball, Baseball, Track Athletics, and Volley Ball (PEw 141as, 141bs, 141cs, 141ds, 141gs, respectively).
5. Elementary Swimming (PEw 151s).
10. Advanced Hygiene and Sanitary Science (PEw 423s).
12. Playground and Gymnastic Games (PEw 375s).
15. Public School Methods in Physical Education (PEw 461s).
16. Practice Teaching (PEw 464s).

VIII. APPLIED ARTS AND SCIENCES

ART

1. **Elementary Drawing** (A 110s). This course covers work in representation; still life in line and dark and light; free-hand perspective of circles, and linear perspective; some of the principles of composition and design. The pencil, charcoal, and brush and ink are used as media.

Three double periods; 1 credit. Fee \$0.50. *Marjorie Baltzell*

2. **Blackboard Sketching**. This course is designed especially for teachers who desire to enrich their school work by clean forceful blackboard work, or to decorate their rooms with drawings appropriate to the season or special days.

Six periods; 1 credit.

F. H. Berns

3. **Design** (A 120s). The elements of design construction and their application to problems of dress and the home are made the basis of the course.

Four two-hour periods; full collegiate credit (4 credits) if complete term work is done. Fee \$0.50.

F. H. Berns, Marjorie Baltzell

4. **The Theory and Harmony of Color** (A 130s). This course covers the study of the so-called primary colors, the development of the prismatic colors with their complements, color quality, color values, and the various harmonies. Problems are rendered in original color schemes. The study and the adaptation of nature color and color from color prints are an important feature of the course. All problems point to appropriate use of pleasing color schemes as applied to articles of household use, home interiors, and dress.

Four two-hour periods; full collegiate credit (4 credits) if complete term work is done. Fee \$0.50.

F. H. Berns

BOTANY

The members of the Botany department staff stand ready at all times to confer with students of the Summer Session who may desire information or assistance along any of the lines of work included within the field of general botany, plant physiology, plant diseases and their control, weeds, poisonous plants, drug plants, ornamental plants, plant classification, methods of preparing botanical or plant pathological specimens. A large staff of workers, engaged in work along these special lines, is always ready to give advice and information to students interested in botany and plant pathology. The large collection of flowering plants, fungi, and plant diseases, are at the disposal of students.

1. Principles of Plant Science: The Higher Plants (Bot 201).

A study of the structure and vital activities of seed plants, the root, stem, leaf, flower, and fruit. The relation of growing plants to the environment: to light, air, moisture supply, soil elements, etc.

One lecture; 1 recitation; 3 two-hour laboratory periods; 3 credits. Fee \$1.50. Text: Martin, Botany. *W. E. Lawrence*

2. The Identification of Plants (Bot 331).

A study of the families of higher plants and the identification of weeds, ornamental plants, poisonous plants, crop plants, trees, shrubs, native herbs, etc., as student may elect; practice in drying and mounting plant specimens. A student may receive additional credit for additional work in this course.

One lecture; 1 recitation; 4 two-hour laboratory periods or field trips. Fee \$1.50. Text: Piper and Beattie, Flora of the Northwest Coast. *W. E. Lawrence*

CHEMISTRY**1. General Chemistry (Ch 103).**

Metallic elements and their compounds; elementary study of the principles of qualitative analysis; further extension and application of the principles of chemical equilibrium; the law of mass-action; theory of solution; the periodic law; laboratory work in elementary qualitative analysis and, in addition, a few typical exercises in gravimetric and volumetric analysis, including acidimetry and alkalimetry. This course is designed particularly for students behind in one term of required General Chemistry. If students require more than one term of General Chemistry they should consult the Director of the Summer Session as early as possible.

Prerequisites: Ch 101, 102. Three recitations; 3 three-hour laboratory periods; 3 credits.

2. Organic Chemistry (Ch 224s).

This is a brief course in Organic Chemistry, and is provided for students in Agriculture, Home Economics, and others.

Three recitations; 2 three-hour laboratory periods; 3 credits; or 5 recitations, 3 three-hour laboratory periods, 5 credits.

3. Qualitative Analysis (Ch. 131).

This course consists largely of laboratory practice in the ordinary processes of separating and identifying ions.

Five four-hour laboratory periods; 3 credits.

4. Quantitative Analysis (Ch 241).

This course consists of elementary gravimetric and volumetric analysis. By special arrangement this course can be made the equivalent of Ch 247 required of Agriculture students.

Five four-hour laboratory periods; 3 credits.

Laboratory Fees. For each course in Chemistry a fee of \$4.50 and a deposit of \$2.00 are charged, the latter returnable, less breakage.

ENGLISH

Composition

A. Third Year High-School English. If there is sufficient demand for Third Year High-School English for students deficient for college entrance, a class will be organized. Students wishing to take this work should inform the Director in advance in order that arrangements may be made. *C. M. Newlin*

1. **Principles of English Composition** (Eng 101s). A review of the sentence, the paragraph, and the whole composition. A study of the expository form of discourse with its accessories. Assigned readings in books of specimens. Lectures, recitations, tests, conferences. At least three long and six short themes are required.

Five periods; 3 credits. Texts: Foerster and Steadman, Sentences and Thinking. Fulton, Expository Writing. *S. H. Peterson*

2. **Business English** (Eng 105s). The business letter in detail, special attention being given to letters of application and letters of inquiry and information. At least two long themes, one being a sales argument and the other an advertising narrative, are required. Recitations, note-book work, conferences.

Five periods; 3 credits. Text: Butler and Burd, Business Composition. *S. H. Peterson*

3. **Industrial Journalism** (IJ 200). See "Industrial Journalism" above.

Literature

4. **Contemporary English Literature** (Eng 323s). English literature of the late nineteenth and twentieth centuries.

Five periods; 3 credits.

F. Berchtold

5. **American Literature** (Eng 431s). A study of the literature of America, including the Colonial Period, the Knickerbocker Writers, the Transcendentalists, Cambridge Poets, the Metropolitan Writers, and Present Schools and Tendencies. Lectures; discussions; reports on assigned topics.

Five periods; 3 credits.

F. Berchtold

6. **Public Speaking and Dramatics.** See announcement under "Public Speaking."

HISTORY

A. History of the United States Since 1789. For entrance credit only.

Five periods; 3 credits.

W. H. Ellison

1. **Europe Since 1815** (Hst 212). This course comprises a study of Europe from the fall of Napoleon to the present time.

Five periods; 3 credits.

W. H. Ellison

2. **History of South America** (Hst 331). This course covers rapidly the history of South America, Mexico, and Central America, and has regard to economic and social, as well as political development.

Five periods; 3 credits.

W. H. Ellison

LIBRARY PRACTICE

To students in the Summer Session one of the most valuable assets is the library. The Oregon Agricultural College library, now housed in the beautiful new Library Building, consists of a classified collection, numbering 52,375 volumes, of standard works of history, biography, pure and applied science, economics, sociology, education, literature, and reference. In addition there are many thousand reports, bulletins, and other publications of the various colleges and experiment stations, and of societies and commissions. All this material is easily accessible through catalogues and indexes.

Library Practice for School Librarians. This course is designed to aid teachers who have charge of school libraries in connection with their teaching work. It is not a course in librarianship, and can in no respect be considered a substitute for a library training course. The work consists in lectures on school libraries in Oregon; Oregon library law; the Oregon State Library, its lists, publications, and traveling libraries; selection and ordering of books; simplified classification and catalogue forms; business records and loan systems. There will be one demonstration in mending and cleaning books. The lectures on selection of books will include notes on publishers of school books, dealers in second-hand books and remainders, specially prepared lists for school needs, and selection of technical books for Smith-Hughes courses.

Three periods; 2 credits.

Lucy M. Lewis

MATHEMATICS

1. **Elementary Algebra** (Mth 21). This course deals with the fundamental operations, factoring, highest common factor, lowest common multiple, and fractions. Emphasis is placed upon factoring.

Five periods; 4 credits (entrance credit only). *J. A. van Groos*

2. **Elementary Algebra** (Mth 24). The chief topics considered are the theory of exponents, radicals, quadratic equations, and logarithms.

Five periods; 4 credits (entrance credit only). *J. A. van Groos*

3. **Plane Geometry** (Mth 81). The first two books of Wentworth and Smith's Geometry.

Five periods; 4 credits (entrance credit only). *J. A. van Groos*

4. **Elementary Analysis** (Mth 131). Review of Algebra including radical expressions, quadratic equations, binomial theorem, progressions, and complex numbers. In Analytical Geometry the point, straight line, circle, conic sections, and some of the higher plane curves are studied. Considerable time is given to the plotting of curves in both rectangular and polar coordinates.

Six periods; 4 credits.

5. **Differential Calculus** (Mth 251). Differentiation; simple applications of the derivative; successive differentiation; maxima and minima; points of inflection; curve tracing; differentials; rates; change of variable; indeterminate forms; partial differentiation.

Six periods; 4 credits.

6. **Teacher's Course in Algebra and Geometry**. A study of selected topics in both algebra and geometry with emphasis upon methods of presentation. Application of the laboratory method to the teaching of high-school mathematics will receive particular attention. This course is intended for prospective high-school instructors but is open to all who are interested in the subjects offered.

Five periods; 3 credits.

J. A. van Groos

PHYSICS

1. **General Physics** (Ph 201). The work of two consecutive summer sessions will cover the same ground as courses 201, 202 of the regular college year. Each summer's work will be self-contained so that the course may be started at any time.

Mechanics and Heat.....Summer of 1921

Electricity, Sound, and Light.....Summer of 1922

If six or more students apply for a different course in Physics it may be arranged for.

Prerequisites: Elementary Physics, Plane Geometry. Fifteen hours recitation, lecture, or laboratory work; 3 credits. Fee \$2.00.

W. B. Anderson

PUBLIC SPEAKING AND DRAMATICS

1. **Principles of Story Telling** (PSp 467s). For students preparing for playground, kindergarten, nursery, and extension work. Purpose of story; psychological reasoning for selected stories for different periods of childhood; fairy tales; folk lore; fable; Bible stories; myths; legends; nature and animal stories; hero tales; realistic stories; allegories; symbolic stories; dramatic stories; individual practice with criticism and suggestion, under critic teacher.

Five periods; 3 credits.

Norma Olson

2. **Practical Public Speaking** (PSp 251). Practice in the construction and presentation of original speeches; study of gesture, bearing, and the elements of ease and force in presentation; voice training; criticism on organization of material and delivery.

Five periods; 3 credits.

C. B. Mitchell

3. **Argumentation and Debating** (PSp 253s). Application of the principles of argumentation to debating. Each student has an opportunity to debate upon several questions during the term. Brief-drawing; analysis; selection and handling of evidence in constructive argument and refutation.

Five periods; 3 credits.

C. B. Mitchell

4. **Rural Entertainment**. This course is designed to meet the needs of rural leaders. It deals with the forms of entertainment that are suitable for presentation in rural communities, and gives practice in utilizing the facilities in rural halls, school-houses, churches, and private lawns. (a) or (b) may be taken separately, but it is strongly recommended that they be taken together.

(a). Pantomimes, tableaux, plays, etc. Five periods; 3 credits.

Norma Olson

(b). Make-up, pageantry, shadow pictures, costume, etc. Five periods; 3 credits.

C. B. Mitchell

ZOOLOGY

1. **Evolution and Eugenics** (ZP 352s). A lecture course dealing with the various ideas concerning the origin, development and relation of organisms, with emphasis on human welfare.

Five lectures; 3 credits. Fee \$0.25.

N. Fasten

IX. SHORT COURSE FOR BOYS AND GIRLS

Direction of H. C. Seymour, State Club Leader

A two-week course for boys and girls in practical Agriculture and Home Economics, correlated with Club work, will be given

on the campus of the Oregon Agricultural College this summer. This short course in the past has been very enjoyable and profitable.

The first-prize Club winners at the State Fair are all members of this short course, their expenses being paid by Portland business men who donate the money for these prizes. In addition to these members, many counties, schools, and organizations have offered the trip and short course as prizes to their Club members and will send large delegations. Other boys and girls will be admitted upon the acceptance of their applications, up to the number that may be accommodated, expenses to be paid by the applicant.

The girls and boys will be quartered in Cauthorn and Waldo halls, and will be chaperoned by members of the faculty, who will be on duty both day and night. Supervisors will be in charge of the boys and girls in all forms of recreation and during all time outside of classrooms, not only for the purpose of keeping them out of mischief or danger, but also to insure each individual boy or girl enjoying his or her share of all the good times provided.

Classroom and field instruction will occupy about four hours each day, except Saturday and Sunday. This instruction will not only be quite different in matter and method from the usual school instruction, but will be varied so as to avoid monotony. Physical recreation for both boys and girls will be a prominent feature of the course. Indoor and outdoor sports of all kinds will be taught. These will include swimming in the Shepard Hall pool under safe and expert instruction, and only under adequate supervision. Trips to nearby points of interest will also be taken.

At each general assembly the speaker will be some prominent official or business man or woman of the State. The boys and girls have an opportunity at such gatherings to come into contact with people of importance.

Method of Admission. Prize-winners' names at the State Fair have been filed with the Director of the Summer Session, and reservations made. All others who wish admittance should fill out the Application Blank and send it as soon as possible to the Director of the Summer Session or the State Club Leader. A few days before leaving home a card should be mailed, notifying the State Club Leader on what train you will arrive in Corvallis.

Those who are not prize winners should note carefully the following directions:

(1) The applications must be approved by the county school superintendent, or in cities of the first class, by the city superintendent of schools.

(2) Approval must be based upon good character, interest in Agriculture or Home Economics, and ability to profit by the short course.

(3) Applications should be filed on or before June 1. All applications will be acknowledged and acted upon at once.

(4) Applications may be sent after June 1, but no assurance can be given that they will be accepted.

Expenses. The fee for board and lodging is \$15.00. An additional allowance of a dollar or two should be made for drayage, note-books, pencils, etc. It is not well for young people to have too much spending money.

Each boy should be provided with complete change of underwear, shirts, and stockings for two weeks (he should have overalls or extra suit to work in); with bedding, including sheets, blankets or comforts, and pillow; with towels, soap, napkins, handkerchiefs, comb; brushes for hair, teeth, and clothes. Tennis shoes are required on the gymnasium floor. Baseball gloves, bats, etc., tennis rackets, and bathing suits, will also find use. Lockers will be provided for safe-keeping of each boy's clothing and equipment.

Each girl will need to bring a sufficient number of changes of underwear to last the entire two weeks, wash dress and apron to wear exclusively for cookery, a pair of bloomers (these may be galatea or of some kind of woolen material), and tennis shoes. Other items of personal effects, bedding, etc., are the same as for the boys, listed above.

X. SUMMER SCHOOL OF MUSIC

FACULTY

WILLIAM FREDERIC GASKINS, Mus.B., Director

Voice Culture and Singing, Music History

Graduate student Hillsdale College Conservatory, Michigan; graduate student American Conservatory, Chicago; graduate pupil of Karlton Hackett, Chicago; F. X. Arens, New York; J. Harry Wheeler, New York; J. D. Mehan, New York; Percy Rector Stephens, New York.

GENEVIEVE BAUM-GASKINS, Instructor

Organ, Piano

Graduate American Conservatory, Chicago; pupil of Wilhelm Mittelschulte, Chicago; John J. Hattstaedt, Chicago; Karlton Hackett, Chicago; William Nelson Burritt, New York; William Frederic Gaskins, Chicago.

GUSTAV DUNKELBERGER, Mus.B., Instructor

Pianoforte and Theory

Graduate of Bethel College Conservatory; graduate student American Conservatory, Chicago; student of Henriot Levy, Chicago; Arthur Olaf Anderson, Chicago; Adolph Weidig, Chicago; pianoforte pupil of Richard Buhlig, a pupil of Leschetizky; pupil of Dr. Percy Goetschius; pupil of Louis Victor Saar.

RUTH RONDEAU, Assistant Instructor

Pianoforte

Graduate Oregon Agricultural College School of Music; graduate student of Calvin Cady, Columbia University; graduate student of Lhevinne, American Conservatory, Chicago; Specialist in the Progressive Series.

CARL GRISSIN, Instructor

Violin, Viola

Student of Karl Halir, Gustav Hollaender, Berlin; Edmund Singer, Samuel d'Lange, Joseph Mayer, Stuttgart.

FLORENCE BOWDEN, Assistant Instructor

String Instruments

Student in Violincello of Frederic Konrad, Leo Schultz, August Anderson; and in Mandolin, Banjo, Guitar, student of Guillaume LeBlanc, Jose Martinez, Carlos Rebagliati.

HARRY LYNDEN BEARD, Instructor

Theory and Art of Playing Band Instruments; Band Conducting

Student of Herbert L. Clarke of Sousa's Band.

Arrangements for the study of voice culture and singing, piano, pipe-organ, harmony, history of music, string and band instruments may be made only with the Director of the School of Music at his office, early in the session.

A limited number of pupils in the study of the pipe-organ will be accepted on application therefor not later than July 1.

Unless otherwise designated, all instruction is in private individual lessons of 30 minutes' duration. Only such lessons will be made up as may have been omitted by reason of the severe illness of the student or the instructor's unavoidable absence.

Tuitions will not be refunded for discontinuance of lessons.

Fees for instruction are as follows, payable in advance at the Business Office of the College:

| | |
|---|------------------------------|
| Voice culture and singing, Prof. Gaskins..... | \$36.00 a term of 18 lessons |
| Piano, Mrs. Gaskins | \$36.00 a term of 18 lessons |
| Pipe-organ, Mrs. Gaskins | \$36.00 a term of 12 lessons |
| String Instruments, Mr. Grissen..... | \$36.00 a term of 12 lessons |
| Band Instruments, Mr. Beard..... | \$22.50 a term of 18 lessons |
| Harmony, Theory, Mr. Dunkelberger..... | \$ 7.50 a term of 18 lessons |
| Piano teachers' special course, 20 lessons, Mr. Dunkelberger | \$50.00 a term |

For these tuitions, students are entitled to three lessons a week in voice culture and singing or piano; or two lessons in pipe-organ; or to three class lessons a week of one hour each in harmony.

Practice on piano in private room may also be obtained by application to the Director. Pianos are located on the campus, and within easy reach of living quarters and classrooms.

Rates for practice are as follows:

| | |
|---------------------------------------|---------|
| One hour a day, for six weeks..... | \$ 2.50 |
| Two hours a day, for six weeks..... | 5.00 |
| Three hours a day, for six weeks..... | 7.50 |
| Practice on pipe-organ: | |
| Two hours a day, for six weeks..... | \$15.00 |
| Four hours a day, for six weeks..... | 20.00 |

The pipe-organ for use in teaching and practice is a new Kimball, modern in every respect, and of superior tone and mechanism.

For additional information address William Frederic Gaskins, Director of the School of Music, Administration Building, Oregon Agricultural College, Corvallis, Oregon.

EXPERIMENT STATION

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.
JAMES TERTIUS JARDINE, B.S., Director of the Experiment Station.
EDWIN THOMAS REED, B.S., A.B., Editor of Publications.

Agricultural Chemistry

J. SHIRLEY JONES, M.S., Chemist.
REGINALD HEBER ROBINSON, M.S., Associate Chemist.
HARRY GEORGE MILLER, M.S., Associate Chemist.
DELOSS EVERETT BULLIS, B.S., Assistant Chemist.
JOHN CHARLES REEDER, B.S., Assistant Chemist.

Animal Husbandry

ERMINE LAWRENCE POTTER, M.S., Animal Husbandman.
ALFRED WEAVER OLIVER, B.S., Assistant Animal Husbandman.
BENJAMIN WILLIAM RODENWOLD, B.S., Assistant Animal Husbandman.

Bacteriology

GODFREY VERNON COPSON, M.S., Bacteriologist.
WILLIAM VERNAL HALVERSEN, M.S., Assistant Bacteriologist.

Botany and Plant Pathology

HOWARD PHILLIPS BARSS, A.B., S.M., Plant Pathologist.
WINFRED MCKENZIE ATWOOD, Ph.D., Associate Plant Pathologist.
WILLIAM EVANS LAWRENCE, B.S., Associate Plant Pathologist.
MARION BERTICE MCKAY, M.S., Associate Plant Pathologist.
SANFORD MYRON ZELLER, Ph.D., Associate Plant Pathologist.
HORACE M. WOOLMAN, Field Assistant, Office of Cereal Investigations,
United States Department of Agriculture.

Dairy Husbandry

PHILLIP MARTIN BRANDT, B.S. in Agr., A.M., Dairy Husbandman.
ROY CARROL JONES, B.S., Associate Dairy Husbandman.
VINCENT DICK CHAPPELL, M.S., Assistant Dairy Husbandman.

Entomology

LESTER LOVETT, B.S., Entomologist.
FRANK HEIDTMAN LATHROP, A.B., M.S., Associate Entomologist.
BENTLEY BALL FULTON, B.A., Associate Entomologist.
WILLARD JOSEPH CHAMBERLIN, B.S., Associate Entomologist (Forest Entomology).

Farm Crops

GEORGE ROBERT HYSLOP, B.S., Farm Crop Specialist.

CHARLES CURTIS RUTH, B.Ped., M.S., Assistant Farm Crop Specialist.

JOHN RICHARD NEVIUS, B.S., Assistant Farm Crop Specialist.

HARRY AUGUST SCHOOTH, M.S., United States Department of Agriculture, Scientific Assistant in Forage Crops.

AGNES RYDER, Scientific Assistant, Seed Laboratory, United States Department of Agriculture (Seed Analyst).

Farm Management

HENRY DESBOROUGH SCUDDER, B.S., Chief in Farm Management.

Horticulture

WALTER SHELDON BROWN, A.B., M.S., Horticulturist in Charge.

EDWARD MARIS HARVEY, Ph.D., Horticulturist (Physiology).

ARTHUR GEORGE BOUQUET, B.S., Horticulturist (Vegetable Gardening).

ERNEST HERMAN WIEGAND, B.S., Assistant Horticulturist (Horticultural Products).

CARL EPHRIAM SCHUSTER, B.S., Assistant Horticulturist (Pomology).

ANDREW EDWARD MURNEEK, M.S., Assistant Horticulturist (Physiology).

FRANK JULIUS RIMOLDI, B.S., Junior Assistant Horticulturist (Pomology).

JOHN SAMUEL WIEMAN, B.S., Fellow (Horticultural Products).

Poultry Husbandry

*JAMES DRYDEN, Poultry Husbandman.

ALFRED GUNN LUNN, B.S., Poultry Husbandman in Charge.

FRANK LESTER KNOWLTON, B.S., Research Assistant in Poultry Husbandry.

CHARLES KELLY POWELL, B.S., Assistant in Poultry Husbandry.

Soils

WILBUR LOUIS POWERS, M.S., Chief, Department of Soils.

CHARLES VLADIS RUZEK, B.S., Associate in Soils (Fertility).

EDWARD FRITCHOFF TORGERSOHN, B.S., Assistant in Soils (Soil Surveys).

WILLIAM WATERS JOHNSTON, B.S., Assistant in Soils (Irrigation).

WARD CRETCHER, B.S., Assistant in Soils (Drainage).

DOUGLAS WILLIAM RITCHIE, B.S., Assistant in Soils (Irrigation).

Veterinary Medicine

BENNETT THOMAS SIMMS, D.V.M., Veterinarian.

FREDERICK WILHELM MILLER, M.S., D.V.M., Assistant Veterinarian.

JAMES NIVEN SHAW, B.S., D.V.M., Assistant Veterinarian.

* On leave of absence.

Zoology

HOWARD MARSHALL WIGHT, M.S., Assistant Zoologist.

Branch Experiment Stations

DAVID EDMUND STEPHENS, B.S., Superintendent, Sherman County Branch Experiment Station, Moro.

FRANK CHARLES REIMER, M.S., Superintendent, Southern Oregon Branch Experiment Station, Talent.

ROBERT WITHYCOMBE, B.S., Superintendent, Eastern Oregon Branch Experiment Station, Union.

LEROY CHILDS, A.B., Superintendent, Hood River Branch Experiment Station, Hood River.

GEORGE GORDON BROWN, B.S., Horticulturist, Hood River Branch Experiment Station, Hood River.

HAROLD KARL DEAN, B.S., Superintendent, Umatilla Branch Experiment Station, Hermiston.

ALBERT EDWARD ENGBRETSON, B.S., Superintendent John Jacob Astor Branch Experiment Station, Astoria.

OBIL SHATTUCK, M.S., Superintendent, Harney County Branch Experiment Station, Burns.

THE HOME STATION

The Oregon Agricultural College Experiment Station was organized July 2, 1888, in accordance with the Act of Congress of 1887 known as the Hatch Act. The Experiment Station includes the Home Station at Corvallis and seven branch stations advantageously located throughout the State in such a way as to cover the varying agricultural conditions of the State. At the Home Station about 900 acres of land are used by the College and Station workers engaged in the scientific investigation of problems presented by the different branches of agriculture. The Station organization includes the following departments: Agricultural Chemistry, Animal Husbandry, Bacteriology, Botany and Plant Pathology, Dairy Husbandry, Entomology, Farm Crops, Farm Management, Horticulture, Poultry Husbandry, Soils, Veterinary Medicine, Zoology. In addition to the experimental work carried on by the departments of the Station proper, experimental work is conducted by the School of Engineering, the School of Home Economics, and the School of Pharmacy.

The scientific investigations of the Station Staff strongly support the instruction given in the classroom and through the Extension Service. Aside from the original investigations of economic significance to agriculture, the work affords daily object lessons in

modern farm methods. To the students in the various fields of study the value of the investigative work can hardly be overestimated. To the State, from the point of view of economic progress, its value has been greater, in the estimation of many people, than the entire cost of the College to the people. The work of the Experiment Station is fundamental in the agricultural development of the State. Oregon's soil and climatic conditions present many problems that are unique and that must be solved before the State can develop its great potential agricultural wealth.

As an instance of the general appreciation on the part of Oregonians of the services rendered by the Experiment Station, mention may be made of the strong endorsement presented to the 1919 Legislature through special delegations. No less than six separate delegations representing respectively the horticultural interests, the dairy interests, the Hood River district, the Southern Oregon district, and the Astoria district, covering practically every part of the State, urged upon the Legislature that the assistance of the Experiment Station was essential to the progress and development of their work.

As an illustration of the comprehensive character of the investigational work carried on by the Station, the following brief summaries of projects, by departments, are presented:

Agricultural Chemistry. Chemical research in agriculture at present is concerned with the following: (1) Spray materials. The effect of suspensoids or spreaders on the chemical and physical properties of arsenicals is the latest phase of this work. (2) Soil acidity, the specific object in view being to determine the fundamental reasons explanatory of the fact that some acid soils respond to lime treatment while others (acid by the same tests) do not. (3) Sulfur in the role of a fertilizer. Remarkable increases in yields of legumes have been secured on some types of soil in Oregon from the use of sulfur-carrying fertilizers; investigations in progress indicate a far-reaching effect of sulfur on the chemical nature of the proteins in clover and alfalfa. (4) The composition of commonly grown legumes. The data secured bear upon relative feeding values and the agronomic significance of the several legumes. (5) Yellow-berry in winter wheat. The objective points are the determination of the cause of yellow-berry and means of control on wheat farms of the middle Columbia River Basin. (6) Soil survey. This is cooperative with the department of Soils. Analytical work on leading soil types determines for them their content of the several elements of plant food. It enables comparison of soil types from the standpoint of native fertility and suggests needful fertilizer practice. (7) Enforcement of State Fertilizer and Lime laws. This work involves analy-

ses of fertilizer and lime samples and insures compliance on the part of fertilizer manufacturers and dealers in lime with the very reasonable requirements of the respective laws.

Animal Husbandry. Experiments in Animal Husbandry, which comprehend tests with horses, beef cattle, sheep, and swine, are conducted partly at the Corvallis Station and partly at the Eastern Oregon branch station. Experiments with horses are directed to determine the cost of horse-power for various types of farm and other work, the amount of work that may reasonably be expected from a horse, the cost of keep, etc. Experiments with beef cattle, conducted chiefly at Union, are concerned with fattening steers on various rations and with methods of maturing range cattle. Experiments with sheep have been directed to determine the cost of production, the carrying capacity of different types of pasture, methods of fattening sheep, maturing ewes, and methods of rearing and marketing lambs for meat purposes. Experiments with hogs involve the cost of production, including rapidity of gain; and comparison of different feeding rations and methods of feeding, including the use of pasture.

Bacteriology. Experimental work in Bacteriology at present is confined to two problems: (1) A microbiological study of certain acid soils in Oregon. The reason some acid soils respond to the application of lime while others do not may be found in a carefully controlled study of the microbiological activities in these soils. (2) A bacteriological study of the disease of Hemorrhagic Septicemia in cattle, sheep, and hogs is being made in cooperation with the department of Veterinary Medicine. So little is known about this disease that the diagnosis is often in doubt and the causative organism questioned. Vaccines prepared by this department from the organism supposed to cause the disease seem to act as a prophylactic and even as a cure if administered soon enough. Experimental work in regard to the causative organism or organisms, channel of entrance of organism into the body, means of exit of organism, and reservoirs of infection, is being carried on.

Botany and Plant Pathology. The work in this department includes the following investigations: methods of control for grain smuts and their effect on the vitality of the seed; storage decays of potatoes and other vegetables and their prevention; wilt diseases of potatoes and other crops; the Western blight of tomatoes; relative efficiency of various fungicides both liquid and dust; control of peach diseases; walnut blight control; brown-rot prevention; bean diseases; Oregon crop-disease survey; poisonous-plant investigations; weed studies; the deterioration of orchard trees through bark and wood

decays and other causes; causes of resistance to fire blight in pear stocks; the study of natural vegetation as an indication of agricultural possibilities.

Dairy Husbandry. Investigations in this department are now concerned primarily with problems of production, although a few of the studies in manufacturing are being continued. The problems of raising calves on milk substitutes and suitable home-grown milk substitutes for this purpose are under study; comparative study of different forage crops for silage for dairy cows is in progress; winter rations for growing dairy heifers are being studied to determine the most economical feeds for this purpose; and mill-run, bran, cotton-seed meal, cocoanut meal in different combinations are under comparative study as to their value as feeds for milk production. Observations are being made to determine the keeping quality of butter as affected by different methods of cream neutralization and pasteurization; to determine the cost of manufacture of different dairy products under commercial conditions; to determine, by testing the different factors in the handling of milk, what are the essentials in reducing the bacterial count of milk for market.

Entomology. Experiments in Entomology include: (1) tests to determine the toxicity of various insecticides, to discover new and cheaper insecticides, to discover possible combinations of sprays that will reduce the number of necessary applications, to determine the actual amount of poison necessary to kill a given insect; (2) artificial propagation of beneficial insects; (3) control of root borers and other root-infesting insects that carry plant diseases; and (4) ecological, life-history, and control studies on orchard plant lice, leaf-rollers, and codling-moth; (5) forest insects.

Farm Crops. The experimental work in Farm Crops consists of: (1) Forage work with vetches and related plants, red, burr, and sweet clovers; soy beans; horse beans; alfalfa; grasses for seed and for hay; pasture mixtures; the study of hay in the stack and in the mow; and some experiments on the making of silage. (2) Cereal experiments in varietal testing; breeding and nursery work with wheat and oats; varietal testing with barley, corn, and flax. (3) Potato experiments, including varietal trials; time and method of planting; methods of cutting; and hill selection and fertilizer work. (4) Weed control and eradication. (5) Crop rotations. (6) Miscellaneous experiments with hard seed and milling quality of wheat.

It is proposed, when sufficient funds and land are available, to establish an extensive plant-breeding experiment in field crops, a rotation experiment based on crop yield and economy of production,

and a tillage experiment to work out problems of seed bed preparation, seeding, and handling of various crops.

Farm Management. By means of the farm survey and through farm-record keeping and study of individual cases, a number of the important phases of farm management are being investigated. These are as follows: (1) The determination of the chief factors in successful farming in six different counties of the State, through farm surveys and records. (2) Determination of the cost of production of different crop and livestock products and the cost of various farm operations, in sixteen counties, through record keeping. (3) Methods, efficiency, and costs in manure handling and preservation, through a survey. (4) Farm organization and management planning on individual farms. (5) Methods and costs of land clearing under different conditions.

Some special study is being given to labor supply and labor efficiency on the farm at this time.

Horticulture. Experiments in Horticulture comprise the following types of investigations: (1) More complex phases of pruning including (a) relation of the nitrogen-carbohydrate ratio to pruning practices, and (b) relation of carbohydrates and nitrogen to the behavior of apple spurs. (2) Varietal pruning, the working out of the best pruning practices adapted to the growth of different varieties of fruits. (3) Experiments with stocks of prunes. (4) Propagation of the filbert. (5) Breeding investigations with the filbert. (6) Strawberry variety tests. (7) Fertilizer investigations. (8) Breeding investigations with walnuts, apples, prunes, and strawberries. (9) Irrigation of brambles, including red and black raspberries, evergreen blackberries, and loganberries. (10) Vegetable Gardening investigations in (a) field irrigation, (b) seed strain trials, (c) miscellaneous greenhouse crops. (11) Investigations with by-products of fruits and vegetables. (12) Harvesting and storage investigations with pears.

Poultry Husbandry. Experiments in Poultry Husbandry are chiefly concerned with problems of incubation and with breeding fowls for high average egg production, and for a combination of egg production and meat value. Results in both fields of experimentation have already been remarkable and promise still greater progress towards the objects desired.

Soils. The work in this department includes the following twelve specific investigational projects: fertility rotations; fertilizer experiments; soil-acidity tests and lime trials; cooperative soil survey; soil correction trials; toxicity of alkali salts to crops; cooperative tillage

and soil moisture studies; surveys and feasibility of irrigation and drainage projects; cooperative duty of water and related investigations; experiments in the distribution of water and improvement of irrigation practice; drainage and improvement of wet soils; evaporation and weather studies in relation to soil production; improvement of water laws; critical soil-moisture points for different crops; phosphorus in "red hill" soils; maintenance of organic matter in the soil; functions of sulfur in relation to soil; the use and value of manure. A comprehensive system of crop rotations and fertilizer trials is being conducted on some fifteen of the chief soils of the State to help develop a permanent system of agriculture. The duty of water and related investigations are conducted cooperatively with the United States Department of Agriculture. It is state-wide in scope with agents at Klamath, Redmond, and Burns in Eastern Oregon. The aim is to determine the right amount of water for the chief soil types and leading crops under the main types of farming in the principal irrigated valleys of the State. The surveys to determine the feasibility of proposed drainage or irrigation projects are made as demand arises. The experiments in drainage are to determine the most efficient depths and distance apart for placing drains in soils of different types, and for testing the efficiency of bedding drains in straw as compared with soils. Since there are one-half million acres of marsh lands in the State and three million acres of land periodically wet, the value of these investigations is obvious. If efficient drainage should add to the value of the land the average determined for this work in the Middle West, the reclamation of the State's wet soils would add at least \$10.00 an acre to the value of these millions of acres.

Veterinary Medicine. The experimental work of this department is for the present devoted primarily to investigation of diseases of cattle, most attention being given to infectious abortion and sterility in breeding cattle. Some attention is given to anthrax and Hemorrhagic Septicemia in cattle, to hog cholera, "shipping fever" and forage poisoning in horses, and botulism (limberneck) in fowls.

Zoology. The limited funds and man power devoted to investigations have been centered on studies in the control of damage to agricultural crops by pocket gophers and moles.

THE BRANCH STATIONS

The seven branch stations at Astoria, Burns, Hermiston, Hood River, Moro, Talent, and Union, conduct experiments on the major agricultural problems of their respective agricultural sections of the State.

The John Jacob Astor Branch Station. At Astoria the major problems are dairying, improvement of farm crops, soil fertility, and soil management for Coast conditions and the drainage, improvement, and cultivation of tide lands.

The Harney Valley Branch Station. The station at Burns is conducting experiments in both dry-farming and irrigation agriculture as to: (1) varietal tests of grain and forage crops for this section of the State; (2) rates and dates of seeding; (3) tillage methods; (4) amount of irrigation water and methods of distribution for different crops; (5) fertilizers.

The Umatilla Branch Station. The station at Hermiston is studying problems of agriculture under irrigation on the Umatilla Reclamation Project and similar lands of the Columbia River Basin. Major attention is given to: (1) the amount of water needed for irrigation of different crops and methods of irrigating; (2) varietal trials of farm crops; (3) crop rotation experiments; and (4) fertilizer experiments.

The Hood River Branch Station deals with orchard pests and horticultural problems of this important orcharding section. Experiments and demonstrations are conducted to decide upon the most satisfactory sprays and the most efficient equipment and methods of applying them to control the various orchard pests of the region. In horticulture, investigations are directed primarily to methods of pruning for different fruit crops, fertilizers for orchards, varietal tests with strawberries and potatoes, and an orchard survey of methods and costs of production.

The Sherman County Dry-Farm Branch Station. The Moro station is conducting investigations on the major problems of dry-land farming in the Columbia Basin, including: (1) varietal tests and rate and date of sowing experiments with field crops; (2) cereal breeding investigations; (3) tillage experiments; (4) soil moisture and nitrate investigations; (5) crop rotation experiments; and (6) cereal disease investigations.

The Southern Oregon Branch Station at Talent is centering attention almost wholly upon problems involved in fruit production in

this important fruit-growing region. The studies under way include: (1) investigations to determine relative resistance to pear blight of all the known species of *Pyrus* and all available varieties of cultivated pears in the hope of finding suitable blight-resistant pear stocks; (2) a test orchard of pear stocks, including the principal pear stocks of France, Japan, and China to determine those most satisfactory for Southern Oregon conditions; (3) testing new varieties of pears; (4) pear breeding experiments; (5) disinfectants for blight-control work; and (6) fertilizers for orchards.

The Eastern Oregon Branch Station. The Union Station is equipped with land and buildings for experiments with both livestock and farm crops. Major attention is at present devoted to the problems of growing and feeding cattle, sheep, and hogs with comparative study of different feeds and methods of feeding. Attention is given also to varietal trials of forage and grain crops, to soil fertility problems, and to selection work with a view to crop improvement.

EXTENSION SERVICE

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.
PAUL VESTAL MARIS, B.S., Director of Extension Service; State Leader
of County Agents.
MARGARET FARQUHAR COOK, Secretary of Extension Service.

County Agricultural Agent Work

WALLACE LA DUE KADDERLY, B.S., Assistant State County Agent Leader.
FRANK LLEWELLYN BALLARD, B.S., Assistant State County Agent Leader.
CALVIN JEHU HURD, Assistant State County Agent Leader.

County Home Demonstration Work

JESSIE DUNLAVEY McCOMB, M.S., State Home Demonstration Leader.
LASSIE LANE, Assistant in Foods and Nutrition.

Boys' and Girls' Club Work

HARRY CASE SEYMOUR, State Club Leader.
HELEN JULIA COWGILL, B.S., Assistant State Club Leader.
LEONARD JOHN ALLEN, M.S., State Livestock Club Leader.

Field Specialists

HECTOR MACPHERSON, Ph.D., Professor of Economics and Sociology;
Director of Bureau of Organization and Markets.
EDWARD BLODGETT FITTS, Professor of Dairy Husbandry, Extension
Service.
REUBEN VEERIN GUNN, B.S., Farm Management Demonstrator.
PAUL MEHL, M.S., Agent in Marketing.
IRA GABRIELSON, United States Biological Survey Assistant Biologist.
WALTER SQUIRE CARPENTER, B.S., Extension Specialist in Farm Crops.
HUBERT ELMER COSBY, Extension Specialist in Poultry Husbandry.
CLAYTON LEWIS LONG, M.S., Extension Specialist in Horticulture.
HARRY ARTHUR LINDGREN, B.S., Extension Specialist in Animal Hus-
bandry.

The Extension Service is one of the three great divisions of the Oregon Agricultural College, the functions of which include: resident instruction, experiment and research, and college extension.

The Extension Service is charged with the duty of extending the benefits, advantages, and available information of the College and of the United States Department of Agriculture to every portion of the State and to all those persons who for any reason are unable to come to the College.

The Extension Service includes all forms of off-campus instruction and assistance in those subjects in the College curriculum which

lend themselves to extension methods or which can be taken and adapted to the direct needs of the people of the State. The various Extension activities are the means through which information, instruction, assistance, and methods of self-help are carried to all persons who desire them at any point within the State. In brief, the Extension Service represents the medium, both independently and in hearty cooperation with all other organized forces of betterment, for enlarging and enriching the agricultural and home interests of Oregon. No county, town, hamlet, farm, or home need be without some evidence of this service.

To accomplish the objects sought, various methods are employed; namely, teaching by demonstration, giving of accurate and timely information, organization, planning for social and other recreation, and cooperating with Experiment Station and other organized forces. In a field so large, with such a multiplicity of problems and conditions, and with numerous methods of action, there is grave danger of unwise or wasteful undertakings. To prevent this the law requires the preparation of written plans for work and proposed expenditure of funds. These plans must be approved by the United States Secretary of Agriculture and by the President of the Oregon Agricultural College. These detailed plans of work are called projects. They must be approved before they are inaugurated, must be reported on at the close of each fiscal year, and when once adopted and signed cannot be altered or deviated from without the written consent of the authorities of the United States Department of Agriculture.

The several distinct lines of work now covered by written projects, from which the citizens of some portion of the State are receiving benefit, include:

(1) General Administration and Organization of the Extension Service.

- (2) Printing and Distribution of Publications.
- (3) Extension Schools and Meetings.
- (4) County Agricultural Agent Work.
- (5) Home Economics and Home Demonstration Work.
- (6) Boys' and Girls' Club Work.
- (7) Drainage and Irrigation.
- (8) Horticulture.
- (9) Animal Husbandry.
- (10) Dairying.
- (11) Poultry Husbandry.
- (12) Farm Crops.
- (13) Farm Management Demonstrations.
- (14) Organization and Markets.
- (15) Rodent Control.

It should not be assumed that these projects cover the only problems of importance within the State. It is the purpose to put into operation and to emphasize those lines of Extension Service that are fundamental to large and important interests of farm or home welfare, or to material agricultural development.

The County Farm Bureau. The county farm bureau, a representative body of citizens of the county selected by individual communities, is an effective means of cooperation between the county, the College, and the United States Department of Agriculture. The complete farm bureau embraces representatives from every community in the county. Through local and county conferences the members of this bureau determine a complete "program of work" for the year. This program, which comprehends all phases of extension activity, becomes the basis for the budget item which the county acts upon in considering its appropriation for agricultural extension. Adopted by the farm bureau, and endorsed by the county board through an appropriation, this program thus becomes the basis for expenditures of the county, State, and Federal funds available for the agricultural extension work of any particular county.

Importance of Extension Work in Oregon. The magnitude of the problem of College Extension in Oregon can be fully realized only by keeping in mind that the State has a population of nearly 900,000 distributed over a total area of 96,699 square miles—a territory greater than the combined areas of Illinois and Indiana and almost as great as the combined areas of New York, New Jersey, and Pennsylvania. The State, moreover, has few railroads, and in certain sections is very sparsely settled. The people who are to be reached by extension methods represent the greatest extremes in age, capacity, education, experience, and environment. Oregon's great diversity in elevation, precipitation, temperature, soil, and climatic conditions, complicates the problem of Extension Service, and makes it important in proportion to its complexity.

All persons or communities in the State wishing to make use of the assistance to which they are entitled and which will freely be given in any of the lines indicated, should communicate with the county representative of the Extension Service (County Agent, Home Demonstration Agent, or County Club Leader) direct, or with the Extension Service, Oregon Agricultural College, Corvallis, Oregon, as far as possible in advance of the time the appointment is desired. Short-notice requests may not find the College in position to render the service desired. If an Extension School is desired, particulars should be given pertaining to the time proposed, the nature of the subjects in which the community will be interested, and the plans

for the meeting. If a single lecture or demonstration or exhibit is wanted, it is important to be equally prompt and explicit.

It must be remembered that while the College is eager and willing at all times to help all who apply, its staff, facilities, and funds are limited. On this account, the Extension Service is sometimes unable to give aid where it would like most to give it. Requests for instruction or other assistance, however, should not be withheld. The great majority of the State's needs have been, and generally can be, cheerfully and efficiently met.

ADMINISTRATIVE

The administrative work of the Extension Service is vested in a Director. The administrative duties consist of planning and coordinating the several lines of Extension work, dividing and assigning funds, planning the Extension campaigns, meetings, schools, conferences, demonstrations, etc., authorizing all Extension publications, planning and arranging exhibits, and supervising the prosecution of all phases of the work. Reports are required covering all lines of Extension Service and periodical reports are made to College officials and other cooperating agencies.

PUBLICATIONS

Short, practical bulletins and leaflets are issued on subjects concerning the agricultural and home interests of the State. These publications are sent out free upon request.

EXTENSION SCHOOLS AND MEETINGS

Extension schools along definite project lines are organized in various sections of the State. These schools are arranged in such way that they may continue from year to year at the same points and yet not repeat the work previously given. The length of time spent at each place is dependent upon the subject-matter to be handled in each case.

When possible, speakers are furnished local organizations through County Agents and Home Demonstration Agents in territory occupied by these agents, or direct through the Extension Service in case there is no agent in the territory. In all lecture work it is desirable both as regards economy and efficiency to arrange the work in circuits.

Judges are furnished fairs as far as this is possible with the limited staff available. Exhibits are made at a few large fairs.

All the work outlined above is arranged directly through County Agricultural Agents, Home Demonstration Agents, and other representatives of the Extension Service in the territory from which the requests are received.

COUNTY AGENT WORK

The largest branch of the Extension Service at the present time is the County Agent work. In charge of this division are the State Leader and Assistant State Leaders. Prosecuting the work throughout the State are twenty-six County Agents, each agent being charged with the development of the agricultural interests of the county which he serves.

The work is conducted under the authorization of Section 3 of Chapter 10 of the Session Laws of Oregon for 1913. The appropriation for Extension work within a county made by a county having an area of 5,000 square miles or less is duplicated up to \$2,000.00 by State funds. In counties of larger area, the maximum duplication by State funds is \$4,000.00. The provisions of the Oregon law place the County Agent work under the direct supervision of the Oregon Agricultural College.

The County Agent is the representative of the United States Department of Agriculture, the State Agricultural College, and the county in which he is located. Through a union of these forces and working with a county organization he is able to bring the fullest measure of practical and scientific knowledge to the solution of the agricultural problems of the county and to the improvement of county life conditions.

Counties not provided with county agents and interested in securing them should correspond with the Director of Extension Service, who will render every assistance possible in explaining the plan and methods of work and necessary steps to be taken in establishing it.

HOME ECONOMICS

Extension work in Home Economics is organized, correlated, and conducted by means of public demonstrations, home demonstrations, conferences, lectures, publicity, correspondence, and otherwise, for the purpose of:

- (1) Giving assistance to women with problems concerning foods, fabrics, household management, housing, and home industries.
- (2) Securing adoption of approved household practices, organization, and administration.
- (3) Increasing knowledge of hygiene and of home and community sanitation.

(4) Promoting the most wholesome and satisfactory living conditions.

Five counties in the State now have Home Demonstration Agents who work with the women and coordinate and apply the results of the work of the several departments of the Oregon Agricultural College, of the United States Department of Agriculture, and of other research institutions, in helping to solve the problems affecting homes and communities. This work is coordinated with other extension activities in a county through the county farm bureau.

A State Leader is in charge of this branch of the Extension Service. Two assistants help the Home Demonstration Agents in the clothing and nutrition projects, and work through Extension schools and the farm bureau in counties where there are no Home Demonstration Agents.

BOYS' AND GIRLS' CLUB WORK

Junior Extension activities of the Oregon Agricultural College take the form of Club work consisting of demonstrations and judging contests among the boys and girls. Those who are interested in the basic farm and home enterprises, such as the growing of plants, the raising of animals, or the work in home economics, are encouraged to enroll for one or more Club projects.

The Club projects which consist of definite work to be done at home are as follows: Corn Growing, Potato Growing, Vegetable Gardening, Poultry Raising, Pork Production, Sheep Raising, Calf Raising, Dairy Herd Record Keeping, Sewing, Cookery, Home-making, Canning, Rabbit Raising, Rural Home Beautification, and Milk Goat Raising, fifteen projects in all.

This work is organized by Clubs representing each of the above projects, being coordinated with other lines of Extension activity, including County Agricultural Agent and Home Demonstration Agent work, and cooperate with the county school superintendent in each county and the executive committee of farm bureaus of counties having bureaus.

The bulletins and circulars containing the lessons and instructions for each project are prepared by the Oregon Agricultural College and the United States Department of Agriculture and mailed to the local Club leader of each Club.

Help on organization, follow-up work, and training of demonstration and judging teams is given the local Club leaders by the State Leader and assistants, the County Club Leader, the County Agricultural Agent, the Home Demonstration Agent, county school superintendent, and rural school supervisor.

Prizes are offered to the winners in Club projects and contests at the local, county, State, and Interstate Club festivals and fairs. The Club members are made to see, however, that the most worthwhile prizes are the knowledge, skill, and profit that each one may derive from the work.

Club work in Oregon is maintained and supervised by the Oregon Agricultural College Extension Service in cooperation with the United States Department of Agriculture and the State Department of Education. The activities of all these agencies are led by the State Leader of Club work.

SPECIAL FIELD DEPARTMENTS

DRAINAGE AND IRRIGATION

Drainage work includes soil management subsequent to installing drains as well as drainage construction work. Assistance is given in planning drainage systems as well as through personal demonstration in the laying out of drainage systems for individuals and communities. Information is given through lectures, extension schools, personal conference, and correspondence. Assistance and advice are also given in the organization of feasible drainage districts.

Irrigation is concerned with economic use of water, handling of soils and crops under irrigation, removal of alkali by drainage, and like matters. Assistance is rendered in this work as outlined above under drainage. Design of farm distribution systems and individual pumping plants and organization of irrigation districts where feasible are among the activities of this department.

HORTICULTURE

Extension Horticulture covers the whole subject of orchard operations, including cultivation, pruning, spraying, thinning, harvesting, and marketing, laying emphasis upon the vital question of reducing the cost of producing and handling fruits.

Small fruits and vegetables have their share of attention and the improvement of the surroundings of our farm homes is emphasized as a matter of great importance.

Improvement in the quality of the exhibits of county and community fairs, better arrangements of such exhibits, and a clearer and more uniform method of classification of exhibits is a subject that is given considerable attention.

ANIMAL HUSBANDRY

Extension Animal Husbandry takes up all problems connected with the improvement of beef cattle, horses, swine, sheep, and goats. The slogan is, "Better breeding and more efficient feeding." Information is gathered from many sources and distributed throughout the State. The Extension work in Animal Husbandry is being much strengthened through the rapid accumulation of valuable livestock data by the Experiment Station at Corvallis and by the Eastern Oregon Branch Experiment Station at Union. The great diversity of conditions in various parts of the State is given due consideration and the work planned to fit the particular locality where given.

DAIRYING

Extension Dairying carries throughout the State, and helps to put into effective use, information regarding all branches of the dairy industry, such as the care and management of the herd, the raising of the calf, the treatment of diseases, the care of milk and cream, and the manufacture of dairy products. Emphasis and aid are given toward effecting dairy cooperative organizations such as Cow Testing Associations, Breeders' Associations, Bull Associations, Farmers' Cooperative Creameries, Farmers' Cooperative Cheese Factories, and Farmers' Cooperative Cream Selling Agencies.

POULTRY HUSBANDRY

Extension Poultry Husbandry covers all the branches of the poultry industry in a practical way as they apply to actual farm conditions in the State.

The work embraces such subjects as breeds and methods of breeding; feeds and methods of feeding; methods of housing and management of fowls for egg production and for market; hatching and rearing chickens; marketing of poultry and eggs. Particular attention is being given to the breeding of fowls for egg production.

Through cooperation with County Agents, special demonstrations in caponizing and in selecting and culling laying hens are made possible.

The general aim is to help poultry raisers to produce better eggs and more of them at less cost.

FARM CROPS

Farm Crops Extension work covers the bulk handling of grain, the grading and classification of grain, potatoes, hay, etc., the selection of land for cropping purposes, the preparation of soil, seed se-

lection, planting, culture, harvest, and storage methods for grain, potatoes, beans, peas, corn, flax, and other crops and forage plants, as well as potato certification, seed inspection, crop rotation, and special crop problems. This service is given through personal advisory conferences, special demonstrations, lectures, institutes, bulletins, correspondence, and extension schools.

FARM MANAGEMENT DEMONSTRATIONS

The purpose of the department of Farm Management Demonstrations is to demonstrate to farmers, in connection with their own farms, a practical and efficient method of summarizing and analyzing a farm business as a means of measuring the profit or loss incurred in conducting it and of deciding upon readjustments that promise to increase its net income.

In a management demonstration the business of each farm in a community is analyzed from an economic standpoint and then compared with the others to determine some of the changes which should be made in its organization to make it more profitable.

The Federal Income Tax makes necessary a more careful study of farm accounts and keeping of more accurate records. Special attention is given to meet this requirement through the farm record work and farm business analysis.

RURAL ORGANIZATION AND MARKETS

The Extension Service Bureau of Organization and Markets takes up the investigation of marketing problems which are confronting the farmers of the State. One man is in the field constantly, working with the farmers who are attempting, through organization, to better their conditions. Other members of the staff are sent out on definite organization projects, such as creamery and cheese factory organizations. It is the aim of this department to help farmers' organizations to get started in such a way as to accomplish the most good with the least possible risk and outlay.

Systematic instruction is being carried on through extension lectures, press bulletins, and personal conference covering the whole field of marketing and rural credits.

RODENT CONTROL

Work in the control of rodent pests is conducted by the Oregon Agricultural College in cooperation with the Biological Survey of the United States Department of Agriculture. The 1919 Legislature appropriated \$5,000.00 to assist in this work for the biennium 1919-1920.

CATALOGUE OF DEGREES, HONORS, STUDENTS, AND ENROLLMENT

DEGREES CONFERRED, JUNE 13, 1921

MASTER OF SCIENCE DEGREES

AGRICULTURE

WILLARD JOSEPH CHAMBERLIN
Corvallis, Benton
EDWARD RALPH DING
Portland, Multnomah
JAMES OWEN FOLEY
Corvallis, Benton

FRED WILHELM MILLER
Corvallis, Benton
FRANK RIMOLDI
East Orange, New Jersey
JOHN SAMUEL WIEMAN
Los Angeles, California

MECHANICAL ENGINEERING

HOMER BLAIR MORRIS
Yamhill, Yamhill

BACHELOR OF SCIENCE DEGREES

AGRICULTURE

CLINTON ANAWALT
Jordan Valley, Malheur
SAM WALTER ARMSTRONG
Petaluma, California
ERNEST CHARLES ARTHUR
McMinnville, Yamhill
RAYMOND EUGENE BADGER
Ashland, Jackson
EUGENE CHARLES BAKER
Laguna Beach, California
TED MAURICE BALL
Corvallis, Benton
GEORGE FOSTER BELL
Gardena, California
CURTIS HARRY BINGHAM
South Pasadena, California
WALTER BENO BOLLEN
Portland, Multnomah
ROY ARTHUR BREESE
Red Bluff, California
CYRUS RIPLEY BRIGGS
Corvallis, Benton
FRANK KIMBALL BROWN
Milwaukie, Multnomah
RALPH HENRY CAMPBELL
Amity, Yamhill
ROY EDWIN CANNON
Corvallis, Benton
CHARLES RUSSELL CHANDLER
Fresno, California
RAYMOND LEE CORNWELL
Corvallis, Benton
ELDEN SWEET CORTHELL
Medford, Jackson
ROBERT ELBRIDGE DAMON
Brownsville, Linn

SURENDRA NATH DAS GUPTA
Corvallis, Benton
JOHN SIERK FELDHOUSEN
Boise, Idaho
JAMES LANE GIBBONS
Corvallis, Benton
ARTHUR FAY GILLETTE
La Verne, California
THORLAND RICHEY HALL
Yakima, Washington State
THOMAS EUGENE HAMPTON
Pendleton, Umatilla
CHARLES HAROLD HARTMANN
Hollister, California
ALFRED ROSCOE HAWORTH
Newberg, Yamhill
WILLIAM BREWSTER HAYES
Pasadena, California
WILLIAM VAN CAMP HEISS
Corvallis, Benton
ERNEST EDSON HENRY
Pullman, Washington State
EARL HANDLEY HESSELTINE
Tulare, California
ALVIN DEWEY HOBART
Silverton, Marion
JOHN JEPPESEN
Bacona, Washington
LEONARD JERNSTEDT
Carlton, Yamhill
LEWIS ROSS JOHNSON
Bozeman, Montana
WILLIAM CONRAD JONES
Ottawa, Kansas
ROY SERVAIS KEENE
Salem, Marion

BACHELOR OF SCIENCE DEGREES, AGRICULTURE—Continued

| | |
|--|---|
| KARL HENRY WILLIAM KLAGES Corvallis, Benton | FOREST VERNON RYCRAFT Corvallis, Benton |
| MAURICE RUHBERG KNIGHT Corvallis, Benton | OLIVER LORENZO SAMUELSON Brownsville, Linn |
| HERMAN ERNEST LAFKY Salem, Marion | LYNN DURRELL SANBORN Los Angeles, California |
| AMI LAGUS Astoria, Clatsop | WALTERIO SEIN Matehuala, Mexico |
| CLARENCE ELMER LARSON Long Beach, California | RALPH ELMO SHANNAHAN Dundee, Yamhill |
| GARFIELD ORR LEWIS Portland, Multnomah | EVERETT LATHROP SMITH Pasadena, California |
| MARION MCCART McMinnville, Yamhill | HARVEY BARTON SMITH Corvallis, Benton |
| RAYMOND ELWOOD MCCORMACK Roseburg, Douglas | JOHN SMITH Corvallis, Benton |
| ROBERT VERNON McEWEEN Milton, Umatilla | MILDRED JEANETTE SPENCER Seattle, Washington State |
| ALVIN HJALMAR MADSEN Silverton, Marion | LEO GEORGE SPITZBEART Salem, Polk |
| GLEN MARTIN McMinnville, Yamhill | ALBERT NEWTON STEWARD Missoula, Montana |
| WILLIAM MILTON MATHISEN Montpelier, Idaho | DAVID GEKELER TATE Boise, Idaho |
| JOSE MIGUEL MENDOZA Binalonan, Philippine Islands | KENNETH SOMERS TAYLOR Glendale, California |
| CECIL HAROLD MILLER Phoenix, Arizona | ROBERT BREWSTER TAYLOR Long Beach, California |
| GEORGE ADAMSON MITCHELL Upland, California | ARTHUR RUSSELL WAKEFIELD Forsyth, Montana |
| LYOYD ARTHUR MOSS Hood River, Hood River | HAROLD SMITH WAKEFIELD Fresno, California |
| WILLETTE BENJAMINE MURRAY Grants Pass, Josephine | JOHN KENNETH WALPOLE Portland, Multnomah |
| HERBERT NELSON Mount Vernon, Washington | CHARLES HARDMAN WEBBER Portland, Multnomah |
| WALLACE ELLSWORTH NILES Grants Pass, Josephine | EARL ADELBERT WEBSTER Corvallis, Benton |
| GEORGE DAVID ORR Randle, Washington State | WILBUR WYNN WEED Beaverton, Washington |
| WILLIAM FULWAR PAYNE Corvallis, Benton | HARRY RICHARD WELLMAN Umapine, Umatilla |
| EMIL RALPH PETERSON North Bend, Coos | WILLIAM CAREY WHITAKER Sacramento, California |
| WILLIAM DOUGLAS PINE Berkeley, California | FRED NELSON WILLIAMSON Yachats, Lincoln |
| EDWARD EVERETT RADCLIFF Burbank, California | HESTON LAWSHE WILSON Hemet, California |
| WARREN WILLIS RECORDS Umapine, Umatilla | ROBERT CECIL WOODWARD Victoria, British Columbia |
| CHESTER ROCHE Corvallis, Benton | WILLARD WILSON YATES Salem, Marion |

FORESTRY

| | |
|---|--|
| ELLIS SEYMOUR COMAN Corina, California | JAMES WILLIAM MEDLEY Oakland, Douglas |
| ROGER DEWEY HEALY Langford, South Dakota | HARRY IRA NETTLETON La Porte, Colorado |
| FRANK OSWALD KOLLER Astoria, Clatsop | CARL AUGUST RICKSON Portland, Multnomah |

LOGGING ENGINEERING

EARLE HAYSLIP
Corvallis, Benton

GEORGE WASHINGTON LUEBKE
Corvallis, Benton

ELLSWORTH SCHUYLER YOUNG
Mt. Solo, Washington State

HOME ECONOMICS

DOROTHEA ABRAHAM
Roseburg, Douglas
LETA VIOLET AGEE
Corvallis, Benton
ALETE AHLSON
Hillsdale, Multnomah
ELTA MAE AIKINS
Riddle, Douglas
ELLA LORENE ALLEN
Lostine, Wallowa
EDITH HELEN AUSTIN
Redlands, California
OPAL IRENE BANTA
Fidu, Idaho
HELEN CAROLYN BOBZIEN
West Seattle, Washington State
SHIRLEY GRACE BROWN
Corvallis, Benton
JENNIE GUSTAVA CARLSON
Oswego, Clackamas
FRANCES LILLIAN CASTNER
Hood River, Hood River
ANNABEL CAROLYN CHANDLER
Maplewood, New Jersey
JUANITA MAE CHANEY
Corvallis, Benton
LOIS MARIAN CHASE
Corvallis, Benton
LENORE DALE COSHOW
Roseburg, Douglas
CLARA EDITH COWGILL
Grangeville, Idaho
GRACE EVELYN CRANDALL
Vancouver, Washington State
LULO ANN DAVIS
Santa Cruz, California
MARTHA ELLEN DAVIS
Delano, California
VIOLA RUTH DINGER
Gresham, Multnomah
DOROTHY MARGARET EDWARDS
Monroe, Benton
MAYBELLE EDNA FELKER
Portland, Multnomah
NATALIE FERGUSON
Walla Walla, Washington State
EUNICE JANE GUTHRIE
Corvallis, Benton
BERNICE MAE HAINES
Portland, Multnomah
MARY MAUDE HALL
Olds, Canada
LOUISE KERR HAMMOND
Corvallis, Benton
WINFRED HAZEN
Snohomish, Washington State

IDA BELLE HENDRICKS
Woodburn, Marion
BESSIE ELLEN HOOVER
Albany, Linn
MARY OLIVE HOWEY
Corvallis, Benton
EMILY ROZELLA HUSBANDS
Mosier, Wasco
OREL EVA JACKMAN
Lynden, Washington State
DORIS MILDRED JENKINS
Los Angeles, California
MARYLEE JENKS
Tangent, Linn
ELLEN OTTEN JOHNSON
Portland, Multnomah
GLADYS VIOLA JOHNSON
Scappoose, Columbia
MARGARET FRANCES JONES
Corvallis, Benton
GLADYS RUTH KIES
Vancouver, Washington State
AVIS KNIPS
Grants Pass, Josephine
MARY ADELE LEWIS
Corvallis, Benton
GERTRUDE LIENKAEMPER
Tillamook, Tillamook
EVA CRYSTAL MCLAGEN
Tangent, Linn
VIRGINIA BYRD MAGNESS
Amity, Yamhill
LOIS MAEBLE MARTIN
McMinnville, Yamhill
ALTA ELIZABETH MATTEN
Salem, Marion
ALTA BELLE MENTZER
Corvallis, Benton
CAMILLA MILLS
Forest Grove, Washington
HELEN MARGARET MORELAND
Portland, Multnomah
BUENTA MYERS
Clay Center, Kansas
FLORENCE PATTY
Amity, Yamhill
EDNA JOSEPHINE PEARSON
Portland, Multnomah
LUCILE ANITA PIERCE
La Grande, Union
MILDRED ESTHER PRATHER
Corvallis, Benton
GLADYS BEATRICE PRICE
Oakland, Douglas
ETHEL ANNETTE QUIMBY
Halsey, Linn

HOME ECONOMICS—Continued

IRENE ROBINSON
Forest Grove, Washington
LUCY ELIZABETH ROGERS
Toledo, Lincoln
MARIAN FRANCES SIMS
Corvallis, Benton
MAREN JULIA SKOV
Ferndale, California
MABEL ERIAN SPECHT
Portland, Multnomah
ISABELLE ALICE STEELE
Portland, Multnomah
HAZEL MARIE STRAIN
Pendleton, Umatilla
THELMA LOUISE THRONE
Dallas, Polk

MYRLE ALLEN YEXLEY
Oregon City, Clackamas

ANNIE TOWNSEND
Corvallis, Benton
MURIEL ELIZABETH U'REN
Portland, Multnomah
AGNES VON LEHE
Corvallis, Benton
ERNA VON LEHE
Corvallis, Benton
WYTHEL WADE
Island City, Union
GEORGIA MURIEL WEBBER
Halsey, Linn
LEVELLE WOOD
Corvallis, Benton
MARIAN LYLE YEXLEY
Oregon City, Clackamas

CIVIL ENGINEERING

WILLIAM VERNON ALCORN
Corvallis, Benton
MARION LEWIS BOETTICHER
Albany, Linn
HAROLD SAMUEL CARTER
Drain, Douglas
LUTHER LAWRENCE FUNK
Sheridan, Yamhill
NEAL McMILLAN HUFFAKER
Corvallis, Benton
JAMES LAKE MAHON
Hillsboro, Washington

SEWELL OMER NEWHOUSE
Springbrook, Yamhill
JESSE LEE PERRY
Portland, Multnomah
KENNETH PHILLIPS
Albany, Linn
CARL FRANCIS RODOLF
Corvallis, Benton
ROBERT WALTER WAUGH
Hood River, Hood River
GEORGE CHAMBERLIN WELLER
Salem, Marion

ELECTRICAL ENGINEERING

HENRY ANDERSON
Aberdeen, Washington State
LEIGHTON FREDRICK CHURCH
Williams, California
SAMUEL JAMES DOUKAS
Gladstone, Clackamas
DARWIN ALBERT INGALLS
Wilderville, Josephine
JAMES CARL LARSEN
Suver, Polk

HARRY LYNCH
Salem, Polk
HENRY FRED PIETZER
Portland, Multnomah
JULIUS MONROE RIDDLE
Roseburg, Douglas
CARL RUSSELL
Sweet Home, Linn
FRANK NORTHUP WATERS
Salem, Marion

INDUSTRIAL ARTS

OTTO LEE FOX
Albany, Linn
JOHN JUDSON ORR
Randle, Washington State

LOREN REYNOLDS
Corvallis, Benton
THOMAS KIEFER VANNICE
Corvallis, Benton

MECHANICAL ENGINEERING

| | |
|---|---|
| DEWEY HOBSON BITNEY Woodburn, Marion | CARL SAMUEL KLEINAU Jerome, Idaho |
| LYNN CHARLES BUCHNER Ashland, Jackson | CHESTER ARTHUR KLINK Portland, Multnomah |
| ALBERT POY DING Portland, Multnomah | LYLOYD MILLER Portland, Multnomah |
| HENRY WHIPPERMAN FISH Albany, Linn | ROY MAYNARD QUACKENBUSH Portland, Multnomah |
| WILLIAM HARRY FOSTER Portland, Multnomah | CARROLL FRANK REEVES Hillsdale, Multnomah |
| KENNETH BURRIS HALL Portland, Multnomah | BENJAMIN NATHANIEL SCHIEWE Portland, Multnomah |
| HENRY WAN JOWER Portland, Multnomah | WILBUR LINDEN TELFORD Klamath Falls, Klamath |
| EARL CLARK WILEY Corvallis, Benton | |

MINING ENGINEERING

| | |
|--|---|
| WILLIS MURRAY BARTLETT Portland, Multnomah | LANOIEL BERNARD DAVIS Salem, Marion |
| CHARLES EDWIN BOGE Cornelius, Washington | JAMES HELMS MCFARLAND Grants Pass, Josephine |
| ALAN CARL BRANDES Portland, Multnomah | FLOYD MILTON MUSHRUSH Pasadena, California |
| THEODORE LAWRENCE BRYANT Ladysmith, Canada | TOM OSTIEN Monmouth, Polk |
| DEAN SAMUEL CARDER Medford, Jackson | DEWITT ELVIN POWELL Orland, California |
| BURTON THANE COLLINS Corvallis, Benton | WAINARD RIEPA Astoria, Clatsop |
| JOHN FARNUM COWLEY Central Point, Jackson | FRANK EARL HOSS Central Point, Jackson |
| NORMAN WILLIAM WEIDENHEIMER Corvallis, Benton | |

CHEMICAL ENGINEERING

| | |
|--|--|
| EARL CECIL CAUDLE Hillsboro, Washington | MORRIS ROSEN Los Angeles, California |
| JOSEPH PAUL HARVEY Portland, Multnomah | JOHN PALMER WALSTED Portland, Multnomah |
| RALPH REID Corvallis, Benton | MALCOLM ENGLEMAN WRIGHT Dufur, Wasco |

COMMERCE

| | |
|---|---|
| RUTH MARGUERITE APPELMAN Corvallis, Benton | ROWLAND SETH BROWN Philomath, Benton |
| EDITH DIANE BAILIFF Portland, Multnomah | HULDA CATHERINE BURCHELL Corvallis, Benton |
| GUY EDWIN BARKER Cove, Union | AUSTIN CASE Klamath Falls, Klamath |
| MARIAN ELIZABETH BARNUM Medford, Jackson | MARGARET LORINDA CHAPMAN Sheridan, Yamhill |
| CARRIE MARGARET BAYLY Eugene, Lane | BERTHA CLAIRE COLLINS Corvallis, Benton |
| PAUL EDWARD BILLETER Portland, Multnomah | MAMIE CUNNING Baker, Baker |
| ORVAL MCKINLEY BODLE Bay City, Tillamook | MILTON ANTHONY DENT Amity, Polk |

COMMERCE—Continued

- MERCY JANE GAIN
Corvallis, Benton
- ESTHER MARIE GARDNER
Portland, Multnomah
- HELEN MATE HARBKE
Maryhill, Washington State
- GEORGE HENDERSON
Barstow, California
- CLEMENT MARTIN HOWARD
Corvallis, Benton
- LULA MELOY JOHNSON
Corvallis, Benton
- ROBERT FLOYD KYLE
Central Point, Jackson
- CARL ALLEN LODELL
Portland, Multnomah
- WILLIAM LUEBKE
Corvallis, Benton
- ERNEST VIVIEN MCCAIN
Corvallis, Benton
- ISLA MARIE MCCAIN
Corvallis, Benton
- BERTHA MCCORMACK
Roseburg, Douglas
- SUSAN GERTRUDE MAHAN
Baker, Baker
- GRACE ELEANOR MAXWELL
Weiser, Idaho
- KATHLEEN OWEN MELOY
Corvallis, Benton
- CURTIS MILLER
Union, Union
- NEVA LEWIS MOORE
Corvallis, Benton
- CHARLES LEVI PAINE
Eugene, Lane
- BERTIE CECIL PALMER
Jordan Valley, Malheur
- LOWELL ELBERT PALMER
Jordan Valley, Malheur
- RAYMOND EUGENE PRICE
Corvallis, Benton
- BEATRICE RICE
Myrtle Creek, Douglas
- HAROLD BALDWIN ROBINSON
Forest Grove, Washington
- ESTHER BLANCHE SAUNDERS
Richland, Baker
- PAUL WALDIE SCEA
Milton, Umatilla
- CLAIRE RANDOLPH SEELY
Portland, Multnomah
- DOYLE BERTRICE SMITH
Salem, Marion
- ORVILLE CHARLES SMITH
Albany, Linn
- GLENN ELWYN SPRIGGS
Corvallis, Benton
- JAMES IVAN STEWART
Corvallis, Benton
- LYNETTE JOYCE SVENSON
Astoria, Clatsop
- FRED ARTHUR TAYLER
Medford, Jackson
- MAYNARD EDE TURNER
Pasadena, California
- ROBERT EDWIN WALKER
Mancos, Colorado
- MARGARET BOURNE WATSON
Corvallis, Benton
- HENRY WILLIAM WEISENBORN
Portland, Multnomah
- CHESTER FRANKLIN WOMER
Estacada, Clackamas

PHARMACY

- LORETTA CLARE BECKER
Corvallis, Benton
- JOHN STEPHEN DALY
Chico, California
- CLYDE WESLEY HUBBARD
Corvallis, Benton
- INA MARY HUBPARD
Rickreall, Polk
- ROBERT EMMETT HUGHES
Heppner, Morrow
- JOHN GRANT MANNING
McMinnville, Yamhill
- WALTON WINFIELD PARSONS
Sherwood, Washington
- HAROLD STEVENSON
Halsey, Linn

OTHER DEGREES AND DIPLOMAS

GRADUATE IN PHARMACY

- LORETTA CLAPE ECKER
Corvallis, Benton
- WEB EVANDER BEEBE
Corvallis, Benton
- JOHN HARRISON BURRIS
Salem, Marion
- LANTY CAMERON CALLIHAN
La Grande, Union
- SIDNEY WAYNE CLAYPOOL
Harrisburg, Linn
- ERNEST ALVIN COONS
Cove, Union
- JOHN STEPHEN DALY
Chico, California
- VERNE MCKINLEY DINWIDDIE
Corvallis, Benton

GRADUATES IN PHARMACY—Continued

| | |
|--|--|
| RALPH EUGENE HARGETT Holdman, Umatilla | HARRY WALTER MOON La Grande, Union |
| CLIFTON HALE HOWARD Lakeview, Lake | BYRON ALBERT MURRAY Falls City, Polk |
| INA MARY HUBBARD Rickreall, Polk | WALTON WINFIELD PARSONS Sherwood, Washington |
| ROBERT EMMETT HUGHES Heppner, Morrow | HELEN ESTHER RUDESILL Seaside, Clatsop |
| FRANK BERNARD KELLEY Cove, Union | LEONARD CLARENCE RUSSELL North Bend, Coos |
| JOHN GRANT MANNING McMinnville, Yamhill | GEORGE MARTIN WILLIAMS Grants Pass, Josephine |
| SYLVIA BERYL WOODS Corvallis, Benton | |

PHARMACEUTICAL CHEMIST

| | |
|---|--|
| RAY LEONARD ABRAHAM Cherry Grove, Washington | MARY VINCENT HOLMES Portland, Multnomah |
| JAMES OWEN FOLEY Corvallis, Benton | JOSEPHINE LUCILE RESING Portland, Multnomah |
| VIRGIL JEWELL FRINK Philomath, Benton | MAYNARD SAWYER Amity, Yamhill |
| HARVEY REX SHIELDS Amity, Yamhill | |

DIPLOMA, SCHOOL OF MUSIC

| | |
|--|---|
| RUTH IDA McCAW Prescott, Washington State | ELISE DAPHNE ROBINSON Cambridge, Idaho |
|--|---|

BACHELOR OF SCIENCE DEGREES, 1920

(Granted at end of Summer Session)

BACHELOR OF SCIENCE IN AGRICULTURE

| | |
|--|--|
| FRED ANTON ABEGG Portland, Multnomah | CHARLES MILTON TRUESDELL Redlands, California |
| HAROLD LEROY WATENPAUGH Corvallis, Benton | |

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

WAYNE ELLSWORTH GURLEY
Canby, Clackamas

BACHELOR OF SCIENCE IN HOME ECONOMICS

| | |
|---|---|
| MARY ARRISSTIENE EWING Corvallis, Benton | RUTH HELEN MIDDLEKAUFF Corvallis, Benton |
| AGNES HOUCK Portland, Multnomah | MARY HAWLEY MOSBY Cottage Grove, Lane |
| AGNES KENNY Portland, Multnomah | ALVHILD RØMTVÆDT Butte Falls, Jackson |
| EUDORA HARVEY VESTAL Corvallis, Benton | |

BACHELOR OF SCIENCE IN COMMERCE

SARAH HELEN JOHN
Corvallis, Benton

HONORS AND PRIZES

SENIOR HONOR STUDENTS

Senior honors are conferred by the College Council upon those members of the graduating class who have maintained throughout their entire college course the highest scholastic standing in their department. No student is eligible to this honor unless his general average for all subjects has been eighty-five percent or higher. Election is limited to ten percent of the graduating members of a department.

Selections for June, 1921:

SCHOOL OF AGRICULTURE

RAYMOND EUGENE BADGER
WALTER BENO BOLLEN
CYRUS RIPLEY BRIGGS
WILLIAM BREWSTER HAYES
JOHN JEPPESEN

AMI LAGUS
ROBERT BREWSTER TAYLOR
CHARLES HARDMAN WEBBER
HARRY RICHARD WELLMAN
WILLIAM CAREY WHITAKER

DEPARTMENT OF CHEMICAL ENGINEERING

EARL CECIL CAUDLE

SCHOOL OF COMMERCE

MEROY JANE GAIN
CLEMENT MARTIN HOWARD

CARL ALLEN LODELL
KATHLEEN OWEN MELOY

PAUL WALDIE SCEA

SCHOOL OF ENGINEERING

SAMUEL JAMES DOUKAS
HENRY WHIPPERMAN FISH

JAMES LAKE MAHON
KENNETH PHILLIPS

SCHOOL OF FORESTRY

HARRY IRA NETTLETON

SCHOOL OF HOME ECONOMICS

DOROTHEA ABRAHAM
ELTA MAE ATKINS
CLARA EDITH COWGILL
DOROTHY MARGARET EDWARDS

LOUISE KERR HAMMOND
WINIFRED HAZEN
CAMILLA MILLS
WYTHIEL WADE

SCHOOL OF MINES

DEAN SAMUEL CARDER
JAMES HELMS MCFARLAND

SCHOOL OF PHARMACY

LORETTA CLARE BECKER

MUSIC

ELISE DAPHNE ROBINSON

THE CLARA H. WALDO PRIZE

(See page 69)

Senior Women

First Honor—
CAMILLA MILLS

Honorable Mention—
DOROTHEA ABRAHAM
BERNICE MAE HAINES

Sophomore Women

First Honor—
MARY ELIZABETH BAYNE

Honorable Mention—
ETHEL FERN RODGERS
NONA BECKER

Junior Women

First Honor—
ALMA ETHELYN SCHARPF

Honorable Mention—
WINIFRED JONES
FLORENCE AGATHA WHARTON

Freshman Women

First Honor—
MARJORIE HELEN NILES

Honorable Mention—
MABLE ALTONA WOOD
LILLY ELSA NORDGREN

THE A. J. JOHNSON PRIZE

(See page 69)

Senior Men

First Honor—
PAUL WALDIE SCEA

Honorable Mention—
ROY SERVAIS KEENE
KENNETH BURRIS HALL

Sophomore Men

First Honor—
WAYNE KEITH DAVIS

Honorable Mention—
AUGUSTUS HIXON
JOHN BILLINGS ALEXANDER

Junior Men

First Honor—
HAROLD WALTON READEN

Honorable Mention—
JOSEPH MICHAEL KASBERGER
CLAUDE FUNSTON PALMER

Freshman Men

First Honor—
DWIGHT LYMAN MCCAW

Honorable Mention—
FRED NOVINGER
HAROLD MARTIN SCOTT

THE JOSEPH H. ALBERT PRIZE

(See page 69)

PAUL WALDIE SCEA

THE J. M. DICKSON SCHOLARSHIP

(See page 70)

EDGAR ALVIN BIERSDORF

MILITARY COMMISSIONS, 1920-21

The following students have been recommended for commissions in the Officers' Reserve Corps:

GEORGE FOSTER BELL
DEWEY HOBSON BITNEY
ROWLAND SETH BROWN
ORVAL MCKINLEY BODLE
LYNN CHARLES BUCHNER
RALPH HENRY CAMPBELL
DEAN SAMUEL CARTER
AUSTIN CASE
LEIGHTON FREDRICK CHURCH
BURTON THANE COLLINS
ELDEN SWEET CORTHELL
ALBERT POY DING
WILLIAM HARRY FOSTER
THORLAND RICHEY HALL
ROGER DEWEY HEALY
WILLIAM CONRAD JONES
HENRY WILLIAM JOWER
CARL SAMUEL KLEINAU
CHESTER ARTHUR KLINK
ROBERT FLOYD KYLE
JAMES CARL LARSEN
WILLIAM LUEBKE
ALVIN HJALMAR MADSEN
MARION MCCART

CURTIS MILLER
HERBERT NELSON
WALLACE ELLSWORTH NILES
HENRY FRED PIETZKER
DEWITT ELVIN POWELL
GEORGE ARTHUR POWELL
ROY MAYNARD QUACKENBUSH
CARROLL FRANK REEVES
MORRIS ROSEN
PAUL WALDIE SCEA
BENJAMIN NATHANIEL SCHIEWE
STERLING WILLIAM SMITH
GLENN ELWYN SPRIGGS
HAROLD STEVENSON
THOMAS KIEFER VANNICE
HAROLD SMITH WAKEFIELD
JOHN KENNETH WALPOLE
JOHN PALMER WALSTED
CHARLES HARDMAN WEBBER
HARRY RICHARD WELLMAN
WILBUR WYNN WEED
NORMAN WILLIAM WEIDENHEIMER
EARL ADELBERT WEBSTER
CARL ALFRED WILLIAMS

HESTON LAWSHE WILSON

ROSTER OF OFFICERS

MILITARY DEPARTMENT, 1920-21

PROFESSOR OF MILITARY SCIENCE AND TACTICS

AND COMMANDANT OF CADETS

LIEUTENANT-COLONEL JOSEPH KEPNER PARTELLO, Infantry, United States Army.

INFANTRY UNIT

Regimental Field and Staff

GEORGE ARTHUR POWELL, Colonel
HARRY RICHARD WELLMAN, Lieutenant-Colonel.
GLENN ELWYN SPRIGGS, Captain and Regimental Adjutant.
WILBUR WYNN WEED, Captain and Regimental Supply Officer.
ALVIN HJALMAR MADSEN, Captain and Regimental Instructor in Small Arms Practice.

First Battalion

RALPH HENRY CAMPBELL, Major.
PAUL WALDIE SCEA, 1st Lt. and Battalion Adjt.

Company "A"

THOMAS KIEFER VANNICE, Captain.
WILLIAM HARRY FOSTER, 1st Lt.
OSMOND JOHANN HAUGE, 1st Lt.
EARL HANDLEY HESSELTINE, 2d Lt.
THORLAND RICHEY HALL, 2d Lt.
CLARENCE ELMER LARSON, 2d Lt.
MALCOLM ENGLEMAN WRIGHT, 2d Lt.

Company "B"

AUSTIN CASE, Captain.
HESTON LAWSHE WILSON, 1st Lt.

ROBERT FLOYD KYLE, 1st Lt.
ROBERT EDWIN WALKER, 2d Lt.
ALBERT SAMUEL MURRAY, 2d Lt.
CURTIS MILLER, 2d Lt.
HAROLD STEVENSON, 2d Lt.

Company "C"

MARION MCCART, Captain.
EARL ADELBERT WEBSTER, 1st Lt.
DEWEY HOBSON BITNEY, 1st Lt.
ELDEN SWEET CORTHELL, 2d Lt.
JOHN KENNETH WALPOLE, 2d Lt.
JOSEPH REYNOLDS, 2d Lt.
ROGER DEWEY HEALY, 2d Lt.

OREGON AGRICULTURAL COLLEGE

INFANTRY UNIT—Continued

Second Battalion

GRADY DAVID EPPS, Major.
CHARLES HARDMAN WEBBER, 1st Lt.
and Battalion Adjt.

Company "D"

WILLIAM CONRAD JONES, Captain.
HAROLD SMITH WAKEFIELD, 1st Lt.
WILLIAM LUEBKE, 1st Lt.
CHARLES JOSEPH RUSSELL, 2d Lt.
ROBERT VERNON MCEWEN, 2d Lt.
CECIL HAROLD MILLER, 2d Lt.
CHARLES EUGENE BAKER, 2d Lt.

Company "E"

DEWITT ELVIN POWELL, Captain.
EDWARD BRAGDON STARKEY, 1st Lt.

ROWLAND SETH BROWN, 1st Lt.
TED MAURICE BALL, Acting 2d Lt.
HENRY WILLIAM WEISENBORN, 2d Lt.
ROBERT EMMETT HUGHES, 2d Lt.
WALLACE ELLSWORTH NILES, 2d Lt.

Company "F"

LYNN CHARLES BUCHNFR, Captain.
JOHN PALMER WALSTED, 1st Lt.
MORRIS ROSEN, 1st Lt.
KENNETH SOMERS TAYLOR, Acting 2d Lt.
CARL ALFRED WILLIAMS, 2d Lt.
GEORGE FOSTER BELL, 2d Lt.
ANDREW JULIUS BRUGGER, 2d Lt.
LOWELL ELBERT PALMER, 2d Lt.

BAND

HAROLD CARLTON GOODALE, Second Lieutenant.

FIELD ARTILLERY UNIT

Battalion Field and Staff

STERLING WILLIAM SMITH, Major.
SMITH WEED DOBSON, Acting Captain and Battalion Adjutant.
REX ALLEN DADDYSMAN, Acting Captain and Battalion Supply Officer.

Battery "A"

CLAUDE FUNSTON PALMER, Acting Captain.
ROBERT BREWSTER TAYLOR, Acting 1st Lt.
PAUL KRESS RICHARDSON, Acting 1st Lt.
THOMAS CHARMAN LOVETT, Acting 2d Lt.
WILLIAM FEAGAN TULEY, Acting 2d Lt.

Battery "C"

GEORGE ALFRED ARNOLD JONES, Acting Captain.
LESLIE LEEPER SMITH, Acting 1st Lt.
ROBERT FRANK KRUEGER, Acting 1st Lt.
OSCAR MARVIN HELMER, Acting 2d Lt.
MERTON BENJAMIN BRIGGS, Acting 1st Lt.

"Battery B"

BENJAMIN FRANKLIN SCHUMACHER, Acting Captain.
ORDO WILLIAM IRWIN, Acting 1st Lt.
THOMAS JEFFERSON MCCAIN, Acting 1st Lt.
RALPH ALVIN WESTERING, Acting 2d Lt.
PAUL HUGH EMMETT, Acting 2d Lt.

Staff Officers

RALPH ELMO SHANNAHAN, 1st Lt.
LLOYD MILLER, 1st Lt.

CAVALRY UNIT

Squadron Field and Staff

HERBERT NELSON, Major.

CLAUDE ARMENIUS THORP, Acting First Lieutenant and Squadron Adjutant.

Troop "A"

JOHN JEPPESON, Captain.

ALTON LEROY PETERSON, Acting 1st Lt.

VERNON WILLARD HARPER, Acting 2d Lt.

Troop "B"

GARDNER LEWIS KANE, Acting Captain.

CLYDE ANDERSON BURCHAM, Acting 1st Lt.

WILLIAM GEORGE HARPER, Acting 2d Lt.

MOTOR TRANSPORT CORPS UNIT

Battalion Field and Staff

STEPHEN GUNDLACH NYE, Major.

JACK ALLEN WITTLIFF, Acting First Lieutenant and Battalion Adjutant.

Company "A"

ROBERT ANDREW STAMM, Acting Captain.

WALTER CECIL PATCHETT, Acting 1st Lt.

CLARENCE WILLIAM HARDEBECK, Acting 2d Lt.

Company "B"

HEBER MYRON MORELAND, Acting Captain.

NORMAN POWNE, Acting 1st Lt.

RICHARD JACOB OSTRUM, Acting 2d Lt.

ENGINEER UNIT

Battalion Field and Staff

ORVAL MCKINLEY BODLE, Major.

GEORGE WASHINGTON LUEBKE, Second Lieutenant and Battalion Adjutant.

Company "A"

FLOYD MILTON MUSHRUSH, Captain.

LUTHER LAWRENCE FUNK, 1st Lt.

ALBERT POY DING, 1st Lt.

LEIGHTON FREDRICK CHURCH, 2d Lt.

DEAN SAMUEL CARDER, 2d Lt.

LEE STANLEY HOLMES, 2d Lt.

MERRILL CLAIR JASPER, 2d Lt.

CARL SAMUEL KLEINEAU, 2nd Lt.

FRANK OSWALD KOLLER, 2d Lt.

JAMES CARL LARSEN, 2d Lt.

CARROLL FRANK REEVES, 2d Lt.

LOREN REYNOLDS, 2d Lt.

Company "B"

BENJAMIN NATHANIEL SCHIEWE, Captain.

HENRY FRED PIETZER, 1st Lt.

ALAN CARL BRANDES, 1st Lt.

BURTON THANE COLLINS, 2d Lt.

HENRY WILLIAM JOWER, 2d Lt.

CHESTER ARTHUR KLINK, 2d Lt.

ROY MAYNARD QUACKENBUSH, 2d Lt.

JOE TAFF SKELTON, 2d Lt.

NORMAN WILLIAM WEIDENHEIMER, 2d Lt.

CATALOGUE OF STUDENTS

(The following abbreviations are used to indicate the curriculum in which the student is registered and the classification within the curriculum: Agri., Agriculture; C. E., Civil Engineering; Com., Commerce; H. E., Home Economics; E. E., Electrical Engineering; For., Forestry; Chem. E., Chemical Engineering; L. E., Logging Engineering; H. E., Highway Engineering; I. E., Irrigation Engineering; I. A., Industrial Arts; M. A., Mechanic Arts; M. E. Mechanical Engineering; Min., Mining Engineering; Phar., Pharmacy; Fr., Freshman; Soph., Sophomore; Jr., Junior; Sr., Senior; Voc., Vocational; Op., Optional; Spec., Special.

GRADUATE STUDENTS

| <i>Name</i> | <i>Curriculum</i> | <i>Home Address</i> |
|------------------------------|-------------------|---------------------|
| Absher, Albert | Agri..... | Corvallis |
| Copson, June Seeley | Opt..... | Corvallis |
| Crouter, Paul Henry | Agri..... | Union |
| Ding, Edward Ralph | Agri..... | Portland |
| English, Pennoyer F. | Agri..... | Salem |
| Foley, James Owen | Agri..... | Corvallis |
| Gilmore, Gretchen Grace .. | Phar..... | Junction City |
| Morris, Homer B. | M.E..... | Yamhill |
| Pancok, Louis Henry | Agri..... | St. Louis, Mo. |
| Randall, Charles Edgar | Agri..... | San Jose, Cal. |
| Rimoldi, Frank Julius | Agri..... | East Orange, N. J. |
| Storz, Charles W. | Agri..... | Portland |
| Thompson, Cecil A. | Agri..... | Portland |
| Waite, Katherine D. | Phar..... | Dixonville |

UNDERGRADUATE STUDENTS

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-------------------------------|-------------------|-------------|---------------------|
| Aalvik, Roy | M.E..... | Soph. | Stevenson, Wash. |
| Abadie, Valentine | Agri..... | Voc. | Sandpoint, Idaho |
| Abbett, Gilbert | EE..... | Jr. | Portland |
| Abbott, Charles Edward | C.E..... | Spec. | Medford |
| Abbott, Ernest Victor | Agri..... | Jr. | Corvallis |
| Abbott, Manley Joseph | E.E..... | Soph. | Seaside |
| Aberg, John August | Agri..... | Voc. | Doe Bay, Wash. |
| Abraham, Dorothea | H.E..... | Sr. | Roseburg |
| Abraham, Gaylord Bryan | E.E..... | Soph. | Medford |
| Abraham, John Theodore | Phar..... | Soph. | Roseburg |
| Abraham, Ray Leonard | Phar..... | Jr. | Cherry Grove |
| Acheson, M. Evangeline | H.E..... | Jr. | Chehalis, Wash. |
| Ackerman, Edna Madeline | Com..... | Fr. | Salem |
| Ackerman, Glenn Chester | Com..... | Soph. | Salem |
| Ackley, Kenneth Justice | Agri..... | Fr. | Chapman |
| Adams, Albert Lewis | M.A..... | Voc. | Puyallup, Wash. |
| Adams, Clara Elizabeth | Com..... | Fr. | Corvallis |
| Adams, Floyd James | M.A..... | Voc. | Woodburn |
| Adams, James Arthur | Mines..... | Jr. | St. Helens |
| Adams, Kenneth Sutton | C.E..... | Spec. | Bisbee, Ariz. |
| Adams, Martin V. | Agri..... | Voc. | Mt. Vernon |
| Adamson, Esther | Opt..... | ..... | Prineville |
| Adamson, Helen Esther | H.E..... | Fr. | Talent |
| Adamson, John William | For..... | Fr. | Omaha, Neb. |
| Adamson, Ruth | Opt..... | ..... | Prineville |
| Adkisson, Raymond | Phar..... | Jr. | The Dalles |
| Agee, Leta | H.E..... | Sr. | Corvallis |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|-----------------------|
| Agee, Meryl Dwight | E.E. | Fr. | Corvallis |
| Ahlskog, Iver | E.E. | Jr. | Raymond, Wash. |
| Ahlson, Alete | H.E. | Sr. | Hillsdale |
| Aikins, Edward Leroy | M.E. | Soph. | Riddle |
| Aikins, Elta Mae | H.E. | Sr. | Riddle |
| Albert, Arthur Lemuel | E.E. | Soph. | Jefferson |
| Albin, Mary Christine | Opt. | | Los Angeles, Cal. |
| Albrecht, Andreas Carl | Com. | Soph. | Portland |
| Albright, George Frank | Phar. | Fr. | Portland |
| Alcorn, James L. | C.E. | Fr. | Sitka, Alaska |
| Alcorn, Waldo Alexander | Agri. | Jr. | Sitka, Alaska |
| Alcorn, Wm. Vernon | C.E. | Sr. | Corvallis |
| Alderman, Dwight Edwin | Com. | Voc. | Corvallis |
| Aldrup, Earl William | E.E. | Fr. | Corvallis |
| Alexander, Clyde Murrell | Agri. | Jr. | Mosly, Mont. |
| Alexander, Edith | Com. | Fr. | Chehalis, Wash. |
| Alexander, John Billings | C.E. | Soph. | Corvallis |
| Alexander, Vera Marie | Com. | Fr. | Chehalis, Wash. |
| Alford, Eugene Edwin | Phar. | Soph. | La Grande |
| Alford, Max LaMotte | Com. | Fr. | Salem |
| Aliaga, Juan de | Agri. | Fr. | Lima, Peru |
| Allan, Davis John | Agri. | Fr. | Corvallis |
| Allan, John Walter | For. | Soph. | Eugene |
| Allcock, Theresa Mildred | H.E. | Fr. | Ontario, Cal. |
| Allen, Arthur Francis | Com. | Jr. | Corvallis |
| Allen, Billy Sewell | Com. | Voc. | Bull Run |
| Allen, Edna Josephine | H.E. | Fr. | La Grande |
| Allen, Ella Lorene | H.E. | Sr. | Lostine |
| Allen, Franklin Ellis | I.A. | Spec. | Corvallis |
| Allen, Grace Lillian | Com. | Fr. | La Grande |
| Allen, Leo Conrad | E.E. | Fr. | Sheridan |
| Allen, Leon Charles | C.E. | Soph. | Hillsboro |
| Allen, Marvelle Wright | C.E. | Fr. | Clatskanie |
| Allen, Ora | M.A. | Voc. | Sumas, Wash. |
| Allen, Samuel S. | For. | Soph. | Portland |
| Allison, Wesley Homer | Agri. | Voc. | Prineville |
| Allworth, William Henry | Agri. | Fr. | Crawford, Wash. |
| Allyn, Whitney Cox | Com. | Fr. | Grants Pass |
| Alquist, Dorothy Amelia | H.E. | Soph. | Turlock, Cal. |
| Alter, Harry Meacham | Agri. | Soph. | Ontario, Cal. |
| Altimus, Otis | C.E. | Jr. | Newberg |
| Alves, Manuel V. | Agri. | Voc. | Pilot Rock |
| Amato, Marguerite Lillian | Com. | Fr. | Portland |
| Amiotte, Albert | Agri. | Voc. | Arvada, Wyo. |
| Amrine, Edgar Simpson | Agri. | Soph. | Vermont, Ill. |
| Anawalt, Clinton LaVerne | Agri. | Sr. | Jordan Valley |
| Anderson, Alfred Arvid | M.A. | Voc. | Astoria |
| Anderson, Alfred LeRoy | Agri. | Spec. | Richmond Beach, Wash. |
| Anderson, Andres Arthur | Agri. | Voc. | Hillsboro |
| Anderson, Clarence Olaf | Phar. | Fr. | Portland |
| Anderson, Clyde Edmon | E.E. | Fr. | Waverly, Wash. |
| Anderson, Edith Theodora | Com. | Soph. | Portland |
| Anderson, Eline Bertha | Com. | Soph. | Portland |
| Anderson, Alla Felicia | H.E. | Soph. | Grants Pass |
| Anderson, Elmer Edward | Agri. | Jr. | Creswell |
| Anderson, Elmer Frithiof | E.E. | Jr. | Portland |
| Anderson, George Freeland | I.A. | Spec. | Davis, Cal. |
| Anderson, Henry | E.E. | Sr. | Aberdeen, Wash. |
| Anderson, Hildur | Com. | Soph. | North Bend |
| Anderson, Irene Frances | H.E. | Jr. | Newberg |
| Anderson, Myron Ivan | M.A. | Voc. | Gold Hill |
| Anderson, Oliver Gladstone | M.E. | Soph. | Ashland |
| Anderson, Roy Elmer | E.E. | Soph. | Portland |
| Anderson, Rupert Wallace | Mines | Soph. | Portland |
| Andrew, Walter Silas | Agri. | Voc. | La Grande |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|---------------------|
| Andrews, Charles Luther | E.E. | Soph. | Oregon City |
| Andrews, Jesse Varon | Com. | Soph. | La Grande |
| Angier, Edwin Baldwin | Agri. | Fr. | Van Nuys, Cal. |
| Angle, Frank Cecil | M.E. | Soph. | Portland |
| Aniksdale, Alfred | Agri. | Spec. | Bellingham, Wash. |
| Anlauf, Chester Otto | Com. | Soph. | Portland |
| Annala, Elmer Howell | M.A. | Voc. | Hood River |
| Antonio, Eulogio Arciaga | Agri. | Fr. | Philippine Islands |
| Antonio, Pio Arciaga | Com. | Fr. | Philippine Islands |
| Appelman, Ruth Marguerite | Com. | Sr. | Corvallis |
| Appleby, Mary Emily | Com. | Jr. | Milwaukie |
| Applegreen, Erskine Clarence | Agri. | Voc. | Seattle, Wash. |
| Archibald, Glen Allison | E.E. | Soph. | Corvallis |
| Archibald, Royal Wallace | C.E. | Fr. | Albany |
| Arciaga, Arcadio Isla | Phar. | Fr. | Philippine Islands |
| Arias, John Vega | Agri. | Voc. | Portland |
| Areola, Cecilio Carbonell | Agri. | Soph. | Philippine Islands |
| Armstrong, John Ralph | Ch.E. | Soph. | Oregon City |
| Armstrong, Joseph Albert | C.E. | Soph. | Paterson, N. J. |
| Armstrong, Ray Lafayette | Agri. | Voc. | Tumalo |
| Armstrong, Samuel Walter | Agri. | Sr. | Gardiner |
| Arnold, Arthur Kenneth | For. | Fr. | Portland |
| Arnoldus, Anna Marie | H.E. | Soph. | Summerville |
| Arthur, Ernest Charles | Agri. | Sr. | McMinnville |
| Arthur, Walter L. | Com. | Soph. | McMinnville |
| Asbahr, Estella Marie | H.E. | Fr. | Hillsboro |
| Asbury, Lillie Roena | Com. | Fr. | McMinnville |
| Ash, Charles | Com. | Fr. | La Grande |
| Ashby, Gertrude Genevieve | Com. | Fr. | Salem |
| Ashton, Dan Lester | Com. | Soph. | Tangent |
| Ashworth, Lela | Com. | Spec. | Warrenton |
| Ashworth, Wesley J. | M.E. | Soph. | Roseburg |
| Atkinson, Emma | Com. | Fr. | Redmond |
| Attebery, James Jay | Agri. | Soph. | Payette Idaho |
| Atwood, Esther Margaret | H.E. | Soph. | Jerome, Idaho |
| Atwood, Hazel Julia | H.E. | Jr. | Corvallis |
| Austin, Edith Helen | H.E. | Sr. | Redlands, Cal. |
| Austin, Jesse Hartwell | Com. | Fr. | Tudor, Cal. |
| Austin, Wm. Merl | I.A. | Spec. | Roseburg |
| Averill, Linn | Agri. | Fr. | Corvallis |
| Avery, John Alexander | Com. | Fr. | Elma, Wash. |
| Avrit, Pearl Beatrice | H.E. | Soph. | Corvallis |
| Axlund, William | Com. | Fr. | Aberdeen, Wash. |
| Ayres, Harry Edwin | Agri. | Voc. | Clarkston, Wash. |
| Babb, Bert Graydon | Agri. | Jr. | Eugene |
| Babcock, Caroline Amelia | Com. | Fr. | Salem |
| Bachman, Jennie | H.E. | Soph. | Clackamas |
| Bachman, John Emil | Agri. | Sr. | Marshfield |
| Bacon, Helen Edith | Com. | Soph. | Portland |
| Bacon, Leonard James | M.A. | Voc. | Vancouver, Wash. |
| Badger, Raymond Eugene | Agri. | Sr. | Ashland |
| Badura, George Joseph | Com. | Soph. | Portland |
| Bagley, Ambrie William | Agri. | Fr. | Salem |
| Bagley, Elmer Ellsworth | Com. | Jr. | Ashland |
| Bailey, Clarke Edward | Agri. | Soph. | Portland |
| Bailey, Ellsworth Barr | E.E. | Spec. | Tacoma, Wash. |
| Bailey, Hallard Martin | Phar. | Soph. | Portland |
| Bailey, Merle P. | E.E. | Fr. | Boise, Idaho |
| Bailey, Oscar Andall | Agri. | Voc. | Ferndale, Wash. |
| Bailey, Victor | Agri. | Voc. | Sedalia, Mo. |
| Bailiff, Edith Deane | Com. | Sr. | Portland |
| Bain, Alice Patricia | Com. | Fr. | Portland |
| Bain, Daisy Blanche | H.E. | Soph. | Medford |
| Baines, Elizabeth Louise | Com. | Fr. | Portland |
| Baker, Charles Eugene | Agri. | Sr. | Laguina Beach, Cal. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------------|-------------------|-------------|---------------------|
| Baker, Irma Hilda | Com. | Fr. | Corvallis |
| Baker, Lily | H.E. | Voc. | Corvallis |
| Baker, Rufus William | Agri. | Jr. | Oregon City |
| Baker, William Jennings | M.A. | Voc. | Mabel |
| Balcom, Myrth Edyth | Com. | Jr. | Burbank, Cal. |
| Balderree, Elmer Wendell | For. | Spec. | Dallas |
| Balderree, Irving Dewey | M.E. | Spec. | Dallas |
| Baldwin, Ray D. Jr. | M.E. | Fr. | Marshall, Minn. |
| Ball, Hazel Bernice | H.E. | Fr. | Fossil |
| Ball, Ted Maurice | Agri. | Sr. | Corvallis |
| Ball, Wavel Bercia | H.E. | Fr. | Fossil |
| Ballheim, Edith | H.E. | Fr. | Portland |
| Ballin, Ralph | Agri. | Fr. | St. Louis, Mo. |
| Bannister, Irene | H.E. | Spec. | Weston |
| Barger, Robert Malcom | Com. | Soph. | Portland |
| Barker, Guy Edwin | Com. | Sr. | Cove |
| Barlow, Floyd Lincoln | Agri. | Voc. | Heppler |
| Barlow, Grace Mary | H.E. | Soph. | Portland |
| Barnes, Columbus Wendell | Agri. | Fr. | Goldendale, Wash. |
| Barnes, Mrs. Georgia E. | Com. | Fr. | Corvallis |
| Barnes, Katie Mildred | Com. | Fr. | Corvallis |
| Barnes, Walter Price | Agri. | Voc. | Seattle, Wash. |
| Barnes, Ward Clubine | Agri. | Voc. | Woodburn |
| Barnett, Hugh Albium | Agri. | Voc. | Kerby |
| Barnum, Marion Elizabeth | Com. | Sr. | Medford |
| Barratt, Helen Constance | H.E. | Soph. | Heppler |
| Barrett, Edmund Montgomery | Agri. | Spec. | Ashland |
| Barrett, Mrs. Lois Clement | Opt. | | Corvallis |
| Bartelt, Arthur Bernard | Agri. | Voc. | Corvallis |
| Barthlomy, Lester John | Agri. | Soph. | Drain |
| Barthlomy, Oliver Clifford | E.E. | Fr. | Drain |
| Bartlett, Willis Henry | C.E. | Fr. | Castella, Cal. |
| Bartlett, Willis Murry | Mines. | Spec. | Portland |
| Barton, Edward Lee | Com. | Fr. | Portland |
| Barzee, Wilma A. | Com. | Spec. | Corvallis |
| Baslee, Herbert L. | Com. | Voc. | Portland |
| Basler, Uldawalla Inez | H.E. | Soph. | Bremerton |
| Bassett, James Byron | Agri. | Fr. | Chehalis |
| Bates, Jean Clara | Com. | Soph. | Portland |
| Batthey, Nixon Waterman | Agri. | Voc. | Dryden, Wash. |
| Bauer, Albert | C.E. | Jr. | Portland |
| Bauer, Harold Morris | Agri. | Voc. | Red Oak, Iowa |
| Bauer, Marian Elizabeth | H.E. | Fr. | Corvallis |
| Baumgartner, John Albert | C.E. | Soph. | Milwaukie |
| Baumgartner, Mrs. Laura | Com. | Spec. | Clackamas |
| Baxter, Eugene Millard | Phar. | Soph. | Corvallis |
| Baxter, Wendall | M.A. | Voc. | Portland |
| Baybrook, Harold William | Agri. | Fr. | Linnton |
| Bayly, Carrie M. | Com. | Sr. | Eugene |
| Bayne, Mary Elizabeth | Phar. | Soph. | Salem |
| Beakey, John Sanford | C.E. | Fr. | Portland |
| Beals, Oliver Kenneth | Agri. | Jr. | Corvallis |
| Bean, Bruce Chesley | Agri. | Jr. | Chino, Cal. |
| Bean, Theron Wathall | M.E. | Fr. | Los Angeles, Cal. |
| Bear, Earl Charles | I.A. | Spec. | Turner |
| Beard, Harold Wilbur | Com. | Fr. | Falls City |
| Beard, Lois Emma | Com. | Fr. | Falls City |
| Bearss, Wilbur Cornelius | Agri. | Fr. | Grants Pass |
| Beatty, Matthew Edwin | Mines. | Soph. | Portland |
| Beatty, Ouray Ralston | Agri. | Soph. | Brownsville |
| Beauchamp, Bernard Deane | Agri. | Spec. | Umapine |
| Beaufort, Paul A. | I.A. | Jr. | Chehalis, Wash. |
| Becken, Carl George | Agri. | Jr. | Portland |
| Becker, Florence Caroline | H.E. | Jr. | Hillsboro |
| Beck, Robert William | C.E. | Soph. | Corvallis |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|---------------------------|-------------------|-------------|---------------------|
| Becker, Loretta Clare | Phar. | Sr. | Corvallis |
| Becker, Nona B. | Com. | Soph. | Portland |
| Beckley, Alma Theressa | Com. | Soph. | Portland |
| Beckman, Peter Theodore | Com. | Jr. | Ontario |
| Beckwith, Clarence Elmo | Agri. | Voc. | Olympia, Wash. |
| Beckwith, Harold Edward | Agri. | Soph. | Portland |
| Bedell, Florence | Com. | Fr. | Alsea |
| Bedynek, John P. | I.A. | Fr. | Corvallis |
| Beebe, Cecil J. | M.A. | Voc. | Corvallis |
| Beebe, Webster Evandor | Phar. | Soph. | Corvallis |
| Beeler, Bernardine G. | Com. | Soph. | The Dalles |
| Begg, Ellis Locke | E.E. | Soph. | John Day |
| Begg, Roderick Ellis | Agri. | Fr. | John Day |
| Behrens, Agnes Margaret | H.E. | Fr. | San Diego, Cal. |
| Belknap, Jess Willard | M.E. | Fr. | Polson, Mont. |
| Bell, Clayton | Agri. | Voc. | Idaho Falls, Idaho |
| Bell, Donald Adair | Com. | Voc. | Beaver |
| Bell, George Foster | Agri. | Sr. | Gardina, Cal. |
| Bell, Howard Elwood | E.E. | Fr. | Gardina, Cal. |
| Bell, James Douglas | C.E. | Soph. | Pioneer |
| Bell, Jessie Mary | Com. | Fr. | Pendleton |
| Bellamy, Gwendolyn | H.E. | Soph. | Ukiah, Cal. |
| Bellingier, Mrs. Ivan | Opt. | | Corvallis |
| Belt, William Edward | Com. | Soph. | Newport |
| Bemis, Clifford William | Com. | Fr. | Roseburg |
| Benedict, Albert Veness | C.E. | Jr. | Hermiston |
| Benedict, Arthur Harold | M.E. | Jr. | Hermiston |
| Benedict, Warren Vincent | For. | Fr. | Hoquiam, Wash. |
| Benjamin, Ida May | Opt. | | Chinook, Mont. |
| Bennett, Eli Josiah | Agri. | Spec. | Gooding, Idaho |
| Bennett, Gladys Marie | H.E. | Fr. | La Grange, Cal. |
| Bennett, Jesse Joe | Agri. | Voc. | Weston |
| Benson, Albert Rhodes | Com. | Fr. | Orange, Cal. |
| Benson, Frances Irene | Com. | Soph. | Portland |
| Benson, George Willard | E.E. | Fr. | Reeveton, Wash. |
| Benson, Mary Ellen | H.E. | Spec. | Cottage Grove |
| Benson, Mrs. Orpha | H.E. | Soph. | Cottage Grove |
| Bentley, Kenneth Gardner | Phar. | Fr. | Freewater |
| Beougher, Ethel Olive | H.E. | Sr. | Albany |
| Berg, Mildred Ione | H.E. | Fr. | Hoquiam, Wash. |
| Berg, Winifred Barbara | H.E. | Jr. | Birkenfeld |
| Bergler, Herbert C. | M.E. | Soph. | Portland |
| Bergsvik, Loyalty | C.E. | Fr. | Portland |
| Bertelsen, Emile | H.E. | Spec. | Junction City |
| Bertsch, Mabel Mary | Com. | Fr. | Corvallis |
| Best, Charles Acheson | E.E. | Soph. | Medford |
| Best, Garnet Douglas | Agri. | Fr. | Grants Pass |
| Betts, Genevieve Dillaye | Com. | Jr. | Seattle, Wash. |
| Bevens, Dorval B. | Com. | Fr. | Corvallis |
| Bevens, Hazel Maude | Com. | Voc. | Corvallis |
| Biederman, Wilbur George | Agri. | Soph. | Corvallis |
| Biehler, Bessie Marion | H.E. | Jr. | Lynden, Wash. |
| Biegel, Earl Julius | E.E. | Soph. | Ashland |
| Biersdorf, Edgar Alvin | Agri. | Jr. | Portland |
| Billeter, Calvin Harry | E.E. | Sr. | Portland |
| Billeter, Paul Edward | Com. | Sr. | Portland |
| Billing, Bernice Lynoot | Com. | Voc. | Portland |
| Binder, George Anthony | Agri. | Fr. | Elkton |
| Bingham, Curtis Harry | Agri. | Sr. | Pasadena, Cal. |
| Bingham, Jack Whitney | Com. | Fr. | Pasadena, Cal. |
| Binns, Kenneth Lee | Com. | Fr. | Corvallis |
| Bird, James Anthony | Com. | Spec. | Washington, D. C. |
| Birrell, LaVerne Stanford | Com. | Fr. | St. Johns |
| Bitney, Dewey Hobson | M.E. | Sr. | Woodburn |
| Bixby, John Snell | Agri. | Soph. | Freewater |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| Bjorklund, David George | Agri. | Voc. | Corvallis |
| Black, Mabel Grace | Com. | Jr. | Hillsboro |
| Black, Theodore Addison | Phar. | Spec. | The Dalles |
| Black, William Plummer | Agri. | Spec. | Corvallis |
| Blackburn, Flossie Mae | H.E. | Soph. | Corvallis |
| Blackman, Roger Moe | Agri. | Soph. | Hood River |
| Blackwell, Eva | Com. | Fr. | Reedsport |
| Blaesing, Walter William | Com. | Fr. | Portland |
| Bleeker, Averick Evanna | Com. | Soph. | Pasadena, Cal. |
| Blenkinsopp, Dorothy Clara | H.E. | Fr. | McMinnville |
| Bliven, William McKinley | Agri. | Voc. | Gervais |
| Blomgren, George Vernon | Agri. | Soph. | Weston |
| Blosser, F. Claire | Com. | Fr. | Fresno, Cal. |
| Blue, George William | Agri. | Voc. | Corvallis |
| Blume, Muriel Margaret | H.E. | Fr. | Albany |
| Boak, Gail Carrie | H.E. | Jr. | Bandon |
| Bobzien, Helen Carolyn | H.E. | Sr. | Seattle, Wash. |
| Bodle, Orval M. | Com. | Sr. | Bay City |
| Bodner, Michael James | E.E. | Jr. | Spion Kop, Mont. |
| Boehme, Henry Edward | Agri. | Spec. | Fair Grove, Mo. |
| Boeringa, John | Agri. | Voc. | Grassmere, Wash. |
| Boetticher, Marion Louis | C.E. | Sr. | Albany |
| Boge, Charles E. | Mines | Sr. | Cornelius |
| Bogie, Donald Leeman | I.A. | Soph. | Puyallup, Wash. |
| Boise, Reuben Breyman | Com. | Fr. | Salem |
| Bollen, Walter Beno | Agri. | Sr. | Portland |
| Bolt, Leland Eddy | M.E. | Jr. | Freewater |
| Bond, Opal Rachel | H.E. | Fr. | Eugene |
| Bonnell, Frank Bernard | Agri. | Spec. | Seattle, Wash. |
| Bonney, Luckey Lowell | Com. | Soph. | Corvallis |
| Boone, Arthur | Phar. | Fr. | Upland, Cal. |
| Boone, Ira | Agri. | Soph. | Upland, Cal. |
| Booster, Wallace Herman | M.E. | Fr. | Woodburn |
| Booth, Carl Vivian | Com. | Soph. | Salem |
| Booth, Claude Lorraine | E.E. | Soph. | Grants Pass |
| Booth, Clifton Wallace | Agri. | Fr. | Corvallis |
| Boozer, Mary Le Velle | Com. | Spec. | Corvallis |
| Borgeson, Arthur Andrew | Phar. | Soph. | Portland |
| Bovee, Robert Meadway | Com. | Fr. | Corvallis |
| Bowker, Morris Crawford | Com. | Jr. | Roseburg |
| Bowman, Alice Lydia | H.E. | Fr. | Portland |
| Bowman, Roy Hyde | Com. | Spec. | Falls City |
| Bown, Florence Lavina | H.E. | Spec. | Nova Scotia |
| Boyakin, Joseph S. | M.A. | Voc. | Nehalem |
| Boyd, Carol Elizabeth | Com. | Fr. | Bend |
| Boyd, Goedon Harbison | Agri. | Voc. | Los Angeles, Cal. |
| Boyle, Conrad Lewis | Mines | Fr. | Canyonville |
| Boyle, Wayne Joseph | For. | Soph. | Canyonville |
| Boyles, Heiber Leo | Com. | Fr. | Anaconda, Mont. |
| Brabham, George | Agri. | Voc. | Corvallis |
| Brabham, Leroy Fisher | Agri. | Voc. | Corvallis |
| Bradbury, Aubra Edna | Phar. | Jr. | Klamath Falls |
| Braden, Eulalia Eileen | Opt. | | Hubbard |
| Braden, Gertrude Marion | H.E. | Soph. | Albany |
| Bradley, David Wells | Agri. | Fr. | Monroe |
| Bramkamp, Charles Corley | Agri. | Jr. | Fresno |
| Brandes, Alan C. | Mines | Sr. | Portland |
| Brauer, Mildred A. | Com. | Soph. | Portland |
| Brauti, Erling | Phar. | Soph. | Eugene |
| Brauti, Ruth | H.E. | Fr. | Toledo |
| Braun, William John | C.E. | Fr. | Toledo |
| Brawn, Sumner Wallace | Agri. | Fr. | Portland |
| Brayton, Everett Hiram | Com. | Fr. | Yoncalla |
| Brecht, Harry Herbert | Agri. | Voc. | Medford |
| Breese, Roy Arthur | Agri. | Sr. | Corvallis |
| | | | Corvallis |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|--------------------------|
| Breitenstein, Clara Agnes | Com. | Fr. | Salem |
| Bremner, Alexander | For. | Soph. | Astoria |
| Bremner, Mary Helen | Phar. | Fr. | Nampa, Idaho |
| Brewer, Lena Vivian | Com. | Soph. | Eugene |
| Brewer, Loulin J. | Agri. | Jr. | Chemawa |
| Brewer, Marjorie | H.E. | Jr. | Corvallis |
| Briggs, Cyrus Ripley | Agri. | Jr. | Corvallis |
| Briggs, John Stewart | M.E. | Jr. | Portland |
| Briggs, Louis Merle | Agri. | Sr. | Corvallis |
| Briggs, Merton Benjamin | C.E. | Jr. | Salem |
| Briggs, Vernon White | Phar. | Fr. | Corvallis |
| Brigham, Janice Margaret | H.E. | Spec. | Spokane, Wash. |
| Bright, Bernice | Com. | Soph. | The Dalles |
| Brightman, Agnes Sara | H.E. | Voc. | Sitka, Alaska |
| Brimmer, Porter Amos | Agri. | Jr. | San Bernardino, Cal. |
| Brinkman, Paul | E.E. | Spec. | Portland |
| Brock, Harland George | For. | Fr. | Waterloo |
| Brodgers, Chester O. | Phar. | Jr. | Corvallis |
| Broeren, John Narcissus | C.E. | Fr. | Portland |
| Brookings, Paul Dewey | Agri. | Fr. | Lower Bridge |
| Brooks, Clark Floyd | Com. | Voc. | Hazelton, Idaho |
| Brothers, Mabel Ellen | H.E. | Jr. | Long Beach, Cal. |
| Brown, Andrew J. | E.E. | Fr. | Centralia, Wash. |
| Brown, Clell Grandison | M.E. | Soph. | Corvallis |
| Brown, Edwin Fuller | Agri. | Soph. | Albany |
| Brown, Edna Alice | H.E. | Jr. | Portland |
| Brown, Frank Kimball | Agri. | Sr. | Walla Walla, Wash. |
| Brown, Frank M. | Agri. | Fr. | Gooding, Idaho |
| Brown, George Everett | Agri. | Voc. | Salado |
| Brown, Gilbert Allen | Com. | Soph. | Corvallis |
| Brown, Lawrence Calwell | Agri. | Jr. | Troy |
| Brown, Lester Ira | Agri. | Spec. | Portland |
| Brown, Mark Lester | Phar. | Soph. | Corvallis |
| Brown, Oliver Ellis | Com. | Sr. | Philomath |
| Brown, Roland Seth | Com. | Sr. | Philomath |
| Brown, Shirley Grace | H.E. | Sr. | Corvallis |
| Brown, Thomas Roy | Com. | Fr. | Applegate |
| Brown, Walter Raleigh | Phar. | Soph. | Gresham |
| Brown, Winona | H.E. | Fr. | Corvallis |
| Browning, Doris Madeline | H.E. | Fr. | Dallas |
| Brugger, Andrew Julius | C.E. | Sr. | Gresham |
| Brugger, Anna Marie | H.E. | Jr. | Gresham |
| Brumbach, Joseph Phelan | M.A. | Voc. | Parma, Idaho |
| Brumbaugh, Madeline | H.E. | Fr. | Corvallis |
| Bryan, Darrel F. | M.A. | Voc. | Corvallis |
| Bryant, Theodore L. | Mines. | Sr. | Ladysmith, B. C., Canada |
| Buckman, Donald Wells | Mines. | Fr. | Portland |
| Buchner, Lynn C. | M.E. | Sr. | Ashland |
| Buchner, Merle Conrad | Agri. | Soph. | Albany |
| Buchner, Mertice Benjamin | Agri. | Soph. | Albany |
| Buck, Leo Elasha William | Agri. | Voc. | Lakeview |
| Buckley, Floyd John | Com. | Spec. | Corvallis |
| Buell, Florence | Com. | Jr. | Grants Pass |
| Bullard, Frank Wesley | Agri. | Jr. | Bullards |
| Bump, Victor Leland | M.E. | Fr. | Carnation |
| Bunnell, Doris Hadlock | H.E. | Soph. | San Dimas, Cal. |
| Burcham, Clyde Anderson | Agri. | Jr. | Cottage Grove |
| Burchell, Hulda Catherine | Com. | Sr. | Corvallis |
| Burdon, Fayne Eleanor | H.E. | Soph. | Gladstone |
| Burger, Edna Pauline | Com. | Spec. | Corvallis |
| Burgess, Bernice Beatrice | H.E. | Fr. | Astoria |
| Burk, Faith Rutherford | H.E. | Fr. | Portland |
| Burke, Thomas A. | Com. | Voc. | Aberdeen, Wash. |
| Burkhart, Robert Crossley | Agri. | Fr. | Seattle, Wash. |
| Burkholder, Charles Stouffer | E.E. | Soph. | Corvallis |

| Name | Curriculum | Rank | Home Address |
|-------------------------------|------------|-------|--------------------|
| Burlingame, Natalie | H.E. | Jr. | Sacramento, Cal. |
| Burnett, Harold | Agri. | Soph. | Portland |
| Burns, Mason Lawrence | Agri. | Spec. | Corvallis |
| Burriss, Orville Russell | Com. | Fr. | Wasco |
| Burris, Clarence James | Agri. | Voc. | Festus, Mo. |
| Burris, John Harrison | Phar. | Jr. | Salem |
| Bursell, Hazel Olivia | H.E. | Jr. | Monmouth |
| Burt, Urel S. | Com. | Jr. | Corvallis |
| Burtner, John Cole | Agri. | Soph. | Dufur |
| Busha, Joy | Phar. | Fr. | Mt. Vernon, Wash. |
| Bushnell, Caroline Richmond | H.E. | Voc. | Portland |
| Bury, Fred Franklin | M.A. | Voc. | Woodburn |
| Bushman, John Harry | Com. | Jr. | Springfield |
| Butler, Guy H. | Ch.E. | Sr. | Albany |
| Butler, Ray Elmer | E.E. | Soph. | Eugene |
| Butler, Ruth Elline | Phar. | Soph. | Lebanon |
| Butz, Elmer F. | Agri. | Soph. | Dallas |
| Buxton, Henry Oliver | Com. | Soph. | Corvallis |
| Buxton, Maurice Wade | Com. | Fr. | Corvallis |
| Buxton, Porter Thurston | Opt. | | Corvallis |
| Byers, Harry Howe | Com. | Voc. | Portland |
| Byrd, Michael Lee | Phar. | Soph. | Grants Pass |
| Cady, Allyn H. | Phar. | Jr. | Corvallis |
| Cain, Leonard Thomas | Agri. | Soph. | Nehalem |
| Calbreath, Charles T. | E.E. | Fr. | Independence |
| Caldwell, Malcolm Bridgham | Agri. | Soph. | Colville, Wash. |
| Caldwell, Sidney Eugene | E.E. | Soph. | Portland |
| Caldwell, William Butterfield | Com. | Fr. | Manchester, N. H. |
| Caldwell, William Coburn | M.A. | Voc. | Colville, Wash. |
| Calif, Carl Stevens | Agri. | Fr. | Eugene |
| Callihan, Lanty Cameron | Phar. | Soph. | Union |
| Cameron, George W. | E.E. | Fr. | Portland |
| Cameron, Orey | E.E. | Fr. | Hood River |
| Camp, Albert Douglas | For. | Fr. | Gresham |
| Campbell, Carvel Churchman | Com. | Soph. | Dallas |
| Campbell, Cogswell F. | E.E. | Fr. | Eugene |
| Campbell, Donald B. | Mines | Jr. | Portland |
| Campbell, Falconer Everette | Com. | Fr. | Portland |
| Campbell, James S. | M.E. | Jr. | Roseburg |
| Campbell, Mae Helen | Com. | Soph. | Condon |
| Campbell, Marjorie | H.E. | Spec. | Portland |
| Campbell, Ralph H. | Agri. | Sr. | Amity |
| Campbell, Ruby Elizabeth | H.E. | Sr. | Puyallup |
| Canfield, Amy Carol | Com. | Soph. | Ontario |
| Canfield, Velma Briggs | H.E. | Jr. | Chico, Cal. |
| Cannavina, Anthony David | For. | Soph. | Pasadena, Cal. |
| Cannon, Roy E. | Agri. | Sr. | Corvallis |
| Capell, Francis F. | Com. | Soph. | Portland |
| Carbonell, Harmogenes Barba | Com. | Jr. | Philippine Islands |
| Carder, Dean S. | Mines | Sr. | Medford |
| Carlson, Alfred | Agri. | Spec. | Portland |
| Carlson, Alma May | Com. | Spec. | Monroe |
| Carlson, Amy Theresa | Com. | Fr. | Moscow, Idaho |
| Carlson, Jennie G. | H.E. | Sr. | Oswego |
| Carlson, Peter Lincoln | E.E. | Fr. | The Dalles |
| Carlson, Selma Margaret | H.E. | Voc. | Portland |
| Carnine, Leroy Adrid | Com. | Spec. | Condon |
| Carpenter, Glenn Earl | Agri. | Fr. | Boardman |
| Carr, Ivan Wesley | For. | Fr. | Pendleton |
| Carr, James Miller | Com. | Soph. | Portland |
| Carratt, Ruby Evangeline | Phar. | Fr. | Vancouver, Wash. |
| Carroll, Alice Winifred | H.E. | Fr. | The Dalles |
| Carson, Caryl C. | Ch.E. | Soph. | Salem |
| Cartan, Frederick Roger | E.E. | Soph. | Corvallis |
| Carter, Harold Samuel | C.E. | Sr. | Drain |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-------------------------------|-------------------|-------------|------------------------|
| Carter, Mrs. Harold S. | Com. | Spec. | Drain |
| Carter, Haskell Clarence | M.E. | Soph. | Hillsboro |
| Carter, Thomas L. | For. | Fr. | Long Creek |
| Caruthers, Albert Marion | Agri. | Voc. | Springfield |
| Carvalho, Stanley Bruce | M.E. | Fr. | Wilbur |
| Case, Austin M. | Com. | Sr. | Klamath Falls |
| Case, Cecile Belle | Com. | Fr. | Medford |
| Castner, Frances Lillian | H.E. | Sr. | Hood River |
| Caswell, Lucy Faney | Com. | Sr. | Eugene |
| Caudle, Earl Cecil | Ch.E. | Sr. | Hillsboro |
| Chamberlin, Teresa K. | H.E. | Soph. | Eugene |
| Chambers, Bernice Gertrude | H.E. | Soph. | Canyon City |
| Chambers, Harriette Elizabeth | H.E. | Jr. | Chicago, Ill. |
| Chandler, Annabel Carolyn | H.E. | Sr. | Maplewood, N. J. |
| Chandler, Charles R. | Agri. | Sr. | Fresno, Cal. |
| Chandler, Lloyd Russell | C.E. | Soph. | La Grande |
| Chandler, Ollie May | H.E. | Jr. | Walla Walla, Wash. |
| Chandler, Veva Mary | Com. | Jr. | Walla Walla, Wash. |
| Chaney, Juanita Mae | H.E. | Sr. | Corvallis |
| Chapman, Margaret | Com. | Sr. | Sheridan |
| Chapman, Paul J. | Agri. | Jr. | Santa Rosa, Cal. |
| Chapman, Sanford Elmer | Agri. | Voc. | Lostine |
| Charleston, Gus. Adolph | E.E. | Spec. | Portland |
| Chase, Marion Lois | H.E. | Sr. | Corvallis |
| Chase, William J. | Com. | Fr. | Portland |
| Chatterton, Paul Wesley | M.E. | Soph. | Portland |
| Cheadle, George H. | Phar. | Soph. | Lebanon |
| Cheney, Frederick Perle | Agri. | Voc. | Winslow, Wash. |
| Chenoweth, John Anthony | Agri. | Soph. | Wallowa |
| Chesser, Arzie Maxwell | Com. | Soph. | Stevenson, Wash. |
| Chindgren, Ruben Franklin | I.A. | Soph. | Mulino |
| Chisholm, William Wallace | Com. | Soph. | Pasadena, Cal. |
| Choate, Douglas Burnham | Agri. | Spec. | Corvallis |
| Choate, Homer Sylvester | Agri. | Voc. | Portland |
| Chrisman, Coz Samuel | Agri. | Voc. | Wolf Point, Mont. |
| Christensen, Emile H. | Agri. | Sr. | Portland |
| Christensen, Fred | M.E. | Soph. | Timber |
| Christianson, Arthur B. | M.E. | Soph. | Moro |
| Christiansen, Clarence Lewis | Mines. | Jr. | Corvallis |
| Christiansen, Mrs. C. L. | H.E. | Soph. | Merrill |
| Christiansen, Lena D. | Com. | Soph. | Harve, Mont. |
| Christley, Joseph Dell | M.E. | Fr. | Baker |
| Chruden, Lawrence Burtrun | Mines. | Spec. | Corvallis |
| Chu, John Shih | Agri. | Soph. | Vancouver, B. C., Can. |
| Church, Leighton Frederick | E.E. | Sr. | Williams, Cal. |
| Churchill, Carrie Hardy | H.E. | Jr. | Long Beach, Cal. |
| Churchill, Jennie Babb | Opt. | | Corvallis |
| Cifre, Guillermo | Agri. | Spec. | Spain |
| Clark, Alton B. | Phar. | Fr. | Flora |
| Clark, Edward Leslie | E.E. | Soph. | Salem |
| Clark, Elizabeth Vorhall | Agri. | Spec. | Corvallis |
| Clark, Erma Day | H.E. | Voc. | Portland |
| Clark, Evelyn Winona | Com. | Fr. | Corvallis |
| Clark, Frank Willard | Com. | Soph. | Hoquiam, Wash. |
| Clark, Jessie Beatrice | Opt. | | Sedro Woolley, Wash. |
| Clark, John Raymond | Agri. | Voc. | Portland |
| Clark, Newton Jr. | M.E. | Jr. | Hood River |
| Clark, Raymond Chester | Agri. | Fr. | Salem |
| Clark, Spencer Charles | E.E. | Spec. | Seattle, Wash. |
| Clark, Thomas Bricker | Com. | Voc. | Council, Idaho |
| Clark, William Evans | For. | Fr. | Portland |
| Clarke, Elton Barker | M.E. | Soph. | Condon |
| Clarke, Jack Keating | Phar. | Fr. | Victor, Mont. |
| Claypool, Sidney Wayne | Phar. | Soph. | Harrisburg |
| Clemons, Charles H. | Agri. | Fr. | Montesano, Wash. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|---------------------------|-------------------|-------------|----------------------|
| Cleverdon, Edmund George | Agri. | Voc. | Eugene |
| Clifford, Ida Arvilla | H.E. | Jr. | Portland |
| Clifton, Marjorie Lois | Opt. | | Reedley, Cal. |
| Clodfelter, Dae Yoonne | Com. | Spec. | Corvallis |
| Clodfelter, Donald Lemley | Phar. | Soph. | Corvallis |
| Clough, Alfred Blakely | Agri. | Jr. | Portland |
| Coburn, Austin Plummer | Com. | Spec. | Manchester, N. H. |
| Cochran, Glen Edward | E.E. | Fr. | Cloverdale |
| Cockrum, Arthur Bishoff | Com. | Sr. | Ontario |
| Cody, James Bernard | Com. | Voc. | Portland |
| Coe, Francis Morse | Agri. | Soph. | San Bernardino, Cal. |
| Cofer, Eldon Howard | C.E. | Jr. | Klamath Falls |
| Coffeen, Frederick Dean | Agri. | Fr. | Corvallis |
| Coffeen, Ruth Marian | H.E. | Fr. | Corvallis |
| Coffey, Victor Harrison | C.E. | Jr. | Warrenton |
| Coffman, Rupert Vern | Com. | Jr. | Cottage Grove |
| Cole, Carrol Lee | Com. | Fr. | Long Beach, Cal. |
| Cole, Clara Alida | H.E. | Jr. | Heisson, Wash. |
| Cole, Harold Phil | Com. | Fr. | Long Beach, Cal. |
| Cole, Hazel Helen | H.E. | Soph. | Portland |
| Cole, Helen Hazel | H.E. | Soph. | Portland |
| Cole, Vida Beatrice | H.E. | Soph. | Molalla |
| Coleman, Herbert S. | Agri. | Spec. | Wells |
| Coles, Edward William | E.E. | Soph. | Portland |
| Collins, Bertha Claire | Com. | Sr. | Corvallis |
| Collins, Bertin Thane | Mines | Sr. | Corvallis |
| Collins, Claves | Com. | Fr. | San Bernardino, Cal. |
| Collins, William Orville | M.E. | Jr. | Waterloo |
| Collver, Chester Alfred | Agri. | Soph. | Marshfield |
| Colwell, Elmer Teed | Com. | Soph. | Portland |
| Colwell, Russell McGee | Com. | Soph. | Portland |
| Coman, Ellis Seymour | For. | Sr. | Covina, Cal. |
| Combs, Albert Nelson | M.E. | Soph. | Portland |
| Combs, Arthur William | Agri. | Soph. | Cottage Grove |
| Combs, Orpha Mary Jane | Com. | Spec. | Cottage Grove |
| Conaway, James | M.A. | Voc. | La Grande |
| Condit, Craig Cuyler | Agri. | Jr. | Juneau, Alaska |
| Condon, George Bradley | Agri. | Fr. | San Bernardino |
| Cone, Glyde Elizabeth | H.E. | Sr. | Philomath |
| Conklin, Robert Pierson | For. | For. | Portland |
| Conley, Edward D. | Agri. | Soph. | Corvallis |
| Conley, Grace May | Com. | Spec. | Corvallis |
| Conner, Ava Grace | H.E. | Fr. | Corvallis |
| Conner, Ebon La Monte | Agri. | Soph. | North Bend |
| Conner, Rita Laurie | H.E. | Jr. | Corvallis |
| Connett, Darwin Bardwell | I.A. | Soph. | Lebanon |
| Conroy, Jewell Ruth | Phar. | Jr. | Anaconda, Mont. |
| Cook, Charlie Joseph | M.E. | Fr. | Portland |
| Cook, Gayle Helen | Com. | Soph. | Portland |
| Cook, Lloyd Lee | Agri. | Jr. | San Bernardino, Cal. |
| Cook, James Allie | Agri. | Voc. | Ashland |
| Cook, Ransom M. | Com. | Soph. | Portland |
| Cooley, Lyman Andrew | Com. | Soph. | Parkwood |
| Coon, James Mason | Mines | Fr. | Gooding, Idaho |
| Coons, Ernest Alvin | Phar. | Sr. | Cove |
| Cooper, Clarence Edward | M.E. | Soph. | Portland |
| Cooper, Florence Adah | Com. | Fr. | Hood River |
| Copeland, Silas Alvin | Agri. | Jr. | Burbank, Cal. |
| Coppin, Geneva Lotys | Com. | Fr. | Portland |
| Copple, Edgar Pearl | Com. | Fr. | Portland |
| Corbett, Orville Willard | Phar. | Fr. | Port Angeles, Wash. |
| Corcoran, John Boyce | Agri. | Voc. | Spokane, Wash. |
| Cordley, Dorothea McLouth | H.E. | Soph. | Corvallis |
| Corl, James | M.E. | Soph. | Corvallis |
| Corlett, Anne | Com. | Soph. | Reedley, Cal. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|---------------------|
| Corlett, Donald A. | Mines | Soph. | Portland |
| Cornwell, Raymond Lee | Agri. | Sr. | Corvallis |
| Corrie, John Quincey | Agri. | Soph. | Corvallis |
| Corrigal, Violet Maxine | Com. | Fr. | Echo |
| Corthell, Eldon Sweet | Agri. | Sr. | Medford |
| Coshow, Lenore Dale | H.E. | Sr. | Roseburg |
| Cotton, Mrs. Bernice Evelyn | H.E. | Spec. | Sitkum |
| Cotton, Jesse Roy | Agri. | Voc. | Sitkum |
| Couch, Lloyd Albert | Phar. | Fr. | Sherwood |
| Coulter, Samuel Todd | Agri. | Fr. | Cascade, Idaho |
| Countryman, Charles Milam | Com. | Soph. | Bellingham, Wash. |
| Courtney, William McKinley | Agri. | Spec. | Hillsboro |
| Covell, Kenneth Alfred | M.E. | Fr. | Corvallis |
| Cowgill, Clara Edith | H.E. | Sr. | Grangeville, Idaho |
| Cowgill, Thomas Griffith | C.E. | Fr. | Spokane, Wash. |
| Cowles, Mavis Marion | H.E. | Soph. | Portland |
| Cowley, John F. | Mines | Sr. | Central Point |
| Cox, Cecil E. | C.E. | Fr. | Albany |
| Cox, Dwight | Agri. | Fr. | Ontario |
| Coyner, Elmer Leroy | C.E. | Fr. | Bend |
| Coyner, Marion Lee | Com. | Soph. | Bend |
| Craddock, Chester William | Agri. | Spec. | Silvies |
| Craft, Joseph Earl | Phar. | Voc. | Clatskanie |
| Craft, Maude | H.E. | Soph. | Forest Grove |
| Craft, Welling Hall | C.E. | Soph. | Clatskanie |
| Cram, Dorothy D. | Com. | Fr. | Hood River |
| Cramer, Jennnette Putman | H.E. | Jr. | Grants Pass |
| Cramer, Noah A. | Agri. | Fr. | Corvallis |
| Crandall, Florence | H.E. | Soph. | Corvallis |
| Crandall, Grace Evelyn | H.E. | Sr. | Vancouver, Wash. |
| Crandall, Irma | Com. | Spec. | Vancouver, Wash. |
| Crandall, Kenneth Walter | Com. | Fr. | Portland |
| Crandall, Viola | H.E. | Spec. | Hermiston |
| Crane, Norman David | Ch.E. | Fr. | Corvallis |
| Crane, William B. | M.A. | Voc. | Corvallis |
| Crans, Hazel Belle | Phar. | Fr. | Milwaukie |
| Craven, Milton Mowrey | For. | Soph. | Parkdale |
| Crawford, Ellen Lee | H.E. | Soph. | Fresno, Cal. |
| Crawford, James Malcom | Agri. | Jr. | Fresno, Cal. |
| Crawford, Jasper Vincent | Phar. | Fr. | Heppner |
| Crawford, Phina | Com. | Soph. | Portland |
| Creson, Cycol Hugh | Agri. | Voc. | Salem |
| Crim, Roy Frederick | M.E. | Spec. | Portland |
| Crippen, Frank Courtland | Com. | Fr. | La Grande |
| Crocker, Claude Wallace | EE. | Soph. | Roseburg |
| Crocker, Harry Charles | Ch.E. | Fr. | Roseburg |
| Croisant, Albert Arthur | M.E. | Soph. | Lyons |
| Cross, Donald Hubert | Agri. | Soph. | Bellingham, Wash. |
| Crout, John Shaw | M.E. | Soph. | Portland |
| Crouter, Mary Catherine | Com. | Jr. | Union |
| Crow, Grant S. | Mines | Soph. | Pocatello, Idaho |
| Crowell, Andrew Edward | Agri. | Jr. | Los Angeles, Cal. |
| Crowell, Chester E. | Mines | Sr. | Waldo |
| Croxton, Sarah Isabel | Com. | Fr. | St. Louis, Mo. |
| Crum, Charles Pierce | Agri. | Fr. | Big Timber, Mont. |
| Crum, Ruth Darlyn | H.E. | Fr. | Big Timber, Mont. |
| Crum, Evelyn Marie | Com. | Spec. | Portland |
| Culver, Harold Hickman | Agri. | Voc. | Portland |
| Cummings, Jay Wilson | Com. | Jr. | Howard, Kansas |
| Cummings, Thomas James | Com. | Spec. | Carson, Wash. |
| Cummins, Charles DeGarmo | M.E. | Fr. | Nashville |
| Cunning, Ethel | Com. | Jr. | Baker |
| Cunning, Mamie | Com. | Sr. | Baker |
| Cunningham, Joseph Hobart | C.E. | Soph. | Portland |
| Curl, Byron A. | Ch.E. | Jr. | Lebanon |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|---------------------------|-------------------|-------------|-----------------------|
| Curran, Ethel Rhea | Com. | Fr. | Victoria, B. C., Can. |
| Curran, John D. | Agri. | Fr. | Portland |
| Currie, Robert Burroughs | Com. | Spec. | Everett, Wash. |
| Currin, Kathleen Dora | Com. | Soph. | Estacada |
| Currin, Margaret Jeanette | H.E. | Fr. | Corvallis |
| Curtis, Leslie Bliss | E.E. | Fr. | Hollywood, Cal. |
| Curtis, William John Jr. | Agri. | Fr. | Comstock |
| Cusack, Mary Christina | Agri. | Soph. | Portland |
| Cutright, Arden Lee | C.E. | Fr. | Czar, W. Va. |
| Cutright, Leslie Franklin | Agri. | Fr. | Czar, W. Va. |
| Cyrus, William F. | Agri. | Jr. | Corvallis |
| Daddysman, Rex Allan | C.E. | Jr. | Medford |
| Dahl, Ellen | H.E. | Soph. | Portland |
| Daigh, Charles Warren | Agri. | Jr. | Ontario, Cal. |
| Dakin, Hursey A. | C.E. | Fr. | Freewater |
| Dalrymple, Henry Burton | Mines | Fr. | Portland |
| Dalton, Lionel Carl | Com. | Soph. | Riverside, Cal. |
| Daly, John Stephen | Phar. | Sr. | Chico, Cal. |
| Damon, Robert Elbridge | Agri. | Sr. | Halsey |
| Daniels, Thaxter Norman | I.A. | Fr. | Milwaukie |
| Dannenmann, James Henry | | | |
| George | Phar. | Fr. | Portland |
| Darby, Claude Harold | Mines | Soph. | Salem |
| Das Gupta, Surendra Nath | Agri. | Sr. | India |
| Dau, Clifford O. | Phar. | Soph. | Salem |
| Davids, Arnold G. | Agri. | Jr. | Pasadena, Cal. |
| Davidson, Claude Barton | E.E. | Soph. | Hood River |
| Davis, Anita Kennedy | Com. | Spec. | Portland |
| Davis, Arthur Edward | Com. | Soph. | Roseburg |
| Davis, Beatrice Inez | H.E. | Fr. | Forest Grove |
| Davis, Berkeley Anthony | Com. | Jr. | Santa Ana, Cal. |
| Davis, Charles Kinsman | E.E. | Fr. | Powers, Oregon |
| Davis, Clara Belle | H.E. | Fr. | Gladstone |
| Davis, Walter Clyde | Phar. | Fr. | Rainier |
| Davis, Earl George | Agri. | Fr. | Tacoma, Wash. |
| Davis, F. Riley | Com. | Soph. | Medford |
| Davis, Helen Marjorie | H.E. | Spec. | Brownsville |
| Davis, Henrietta | H.E. | Soph. | Montague, Cal. |
| Davis, Herbert Webster | Com. | Jr. | Portland |
| Davis, Joseph Cowell | E.E. | Fr. | Blackfoot, Idaho |
| Davis, Julia Lillian | H.E. | Soph. | Vale |
| Davis, La Noel Bernard | Mines | Sr. | Salem |
| Davis, Lawrence Sidney | Agri. | Voc. | Woodlake, Cal. |
| Davis, Leonard Smith | Opt. | | Corvallis |
| Davis, Lulo Ann | H.E. | Sr. | Corvallis |
| Davis, Martha Ellen | H.E. | Sr. | Delano, Cal. |
| Davis, Norma Maude | Com. | Jr. | Corvallis |
| Davis, Owen Watson | M.E. | Spec. | Upland, Cal. |
| Davis, Robert William | Agri. | Fr. | Fossil |
| Davis, Walter E. | Agri. | Fr. | Hood River |
| Davis, Wayne Keith | Com. | Soph. | Pomeroy, Wash. |
| Davolt, Bertha Eunice | H.E. | Jr. | Kelso, Wash. |
| Dawe, Percy | I.A. | Jr. | Corvallis |
| Dawes, Clifford Marshall | Com. | Fr. | Portland |
| Dawson, Floyd Wildon | Agri. | Soph. | Milford, Ill. |
| Dawson, Paul Curtis | Agri. | Voc. | Albany |
| Dawson, Percy J. | Agri. | Fr. | Pasadena, Cal. |
| Day, Allen | Phar. | Spec. | New Plymouth, Idaho |
| Day, Delbert Samuel | For. | Soph. | Portland |
| Dean, Frank Cobb | E.E. | Fr. | Central Point |
| Dean, Sidney Ceralpha | C.E. | Jr. | Castle Rock, Wash. |
| Deane, Clifford Ralph | M.E. | Voc. | Astoria |
| Deane, William Robert | Com. | Voc. | Astoria |
| Dearing, Mrs. Della Brown | H.E. | Soph. | Philomath |
| Debok, Clifford Theodore | For. | Fr. | Oregon City |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-------------------------------|-------------------|-------------|-----------------------|
| Deggendorfer, Aloysius Joseph | Agri. | Spec. | Portland |
| Deggendorfer, Theodore George | Mines. | Soph. | Portland |
| Deichman, Charles Leonard | E.E. | Soph. | Hillsboro |
| Deiwert, Beth La Blanche | H.E. | Fr. | Everett, Wash. |
| Deizell, Thomas White | C.E. | Soph. | Klamath Falls |
| De Macedo, William | Agri. | Soph. | Victoria, B. C., Can. |
| De Mello, Sezefredo Silveira | For. | Spec. | Brazil |
| De Moy, Joseph Spencer | Ch.E. | Soph. | Estacada |
| Denlinger, Wendell H. | M.E. | Soph. | Independence |
| Denman, Augustus Nathan | Com. | Jr. | Tacoma, Wash. |
| Denman, Lela Maud | H.E. | Fr. | Parma, Idaho |
| Dennis, Bruce | Com. | Soph. | Raymond, Wash. |
| Denny, Clyde Lester | Agri. | Fr. | Estacada |
| Denny, Merrill | For. | Fr. | Etna Mills, Cal. |
| Dent, Milton A. | Com. | Sr. | Amity |
| Dentel, Russell James | E.E. | Fr. | Aurora |
| Dentler, John Andrew Eugene | Com. | Soph. | Portland |
| Depperman, Elma Audrey | H.E. | Spec. | Corvallis |
| Derry, Zelma Ione | Com. | Fr. | Milwaukie |
| Des Rousseaux, John L. | Ch.E. | Fr. | Twin Falls, Idaho |
| Dewsen, Deo | Ch.E. | Fr. | Seattle, Wash. |
| Dexter, Paul LeRoy | Phar. | Fr. | Lacy, Indiana |
| Dexter, Roy Rex | Com. | Soph. | Bellingham, Wash. |
| Dibble, Grace Pearl | Com. | Fr. | Washougal, Wash. |
| Dick, Bertram Gale | M.E. | Spec. | Albee |
| Dick, Cora May | Com. | Voc. | Bend |
| Dick, Pauline Louise | Com. | Fr. | Portland |
| Dickenson, George A. | Agri. | Voc. | Burns |
| Dickenson, John Marshall | Agri. | Spec. | Santa Paula, Cal. |
| Dickey, Paul Condit | Agri. | Soph. | Corvallis |
| Dickinson, Arthur Lewis | Agri. | Jr. | Corvallis |
| Dickinson, Cameron Turner | Agri. | Soph. | Portland |
| Dickson, Mrs. Helen Dagney | Com. | Voc. | Tidewater |
| Dickson, John Raymond | C.E. | Soph. | Toledo |
| Didtel, Kathryn Margaret | H.E. | Sr. | Riddle |
| Dieffenbach, Emery Marcus | M.E. | Soph. | Creswell |
| Dieffenbach, Ezra C. | M.A. | Voc. | Creswell |
| Dierdorff, William Henry | Agri. | Fr. | Hillsboro |
| Dilberger, Harold A. | E.E. | Soph. | Oakland, Cal. |
| Dilley, Harold Warner | E.E. | Soph. | Portland |
| Ding, Albert Poy | M.E. | Sr. | Portland |
| Dinger, Viola Ruth | H.E. | Sr. | Sublett, Idaho |
| Dinges, William Elmer | Phar. | Spec. | Junction City |
| Dinwiddie, Irene M. | Com. | Fr. | Corvallis |
| Dinwiddie, Merrill Wayne | Com. | Spec. | Corvallis |
| Dinwiddie, Verne McKinley | Phar. | Spec. | Corvallis |
| Ditsworth, Hazel Edna | H.E. | Spec. | Eagle Point |
| Dixon, Mrs. Belva Pierce | Com. | Spec. | Corvallis |
| Dixon, Ellis William | C.E. | Fr. | Yakima, Wash. |
| Dixon, Keturah Dorothy | Com. | Soph. | St. Helens |
| Dobbs, Harry Collister | E.E. | Soph. | Portland |
| Dobell, Wilma | Com. | Fr. | Corvallis |
| Dobson, Smith Weed | E.E. | Jr. | Pacific Beach, Cal. |
| Dobyns, Noel Kenred | E.E. | Fr. | Ione |
| Dodge, James Kenneth | M.E. | Fr. | Corvallis |
| Dodge, Randolph Orville | M.E. | Spec. | Corvallis |
| Dodge, Ray Edgar | Com. | Fr. | Hillsdale |
| Dodge, Seth Bateman | Com. | Fr. | Newberg |
| Doe, Dorothy Anne | Com. | Fr. | Stearnsville, Wash. |
| Doerfer, Alexander Nicholas | Com. | Spec. | Silverton |
| Doerner, Charles George | Agri. | Voc. | Melrose |
| Dolp, Benedict | For. | Fr. | Portland |
| Dolton, Henry Benjamin | For. | Soph. | Anaheim |
| Donaca, Natheel Reva | Com. | Jr. | Albany |
| Donner, Lawrence Hammond | M.A. | Voc. | Laurel, Mont. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|----------------------|
| Doran, Claude Russell | Agri. | Soph. | Burlington, Wash. |
| Dorner, DeWitt William | Agri. | Soph. | Covina, Cal. |
| Dorn, Ruth | H.E. | Jr. | Pasadena, Cal. |
| Dougherty, Edward Elias | Agri. | Voc. | Brownstown, Indiana |
| Dougherty, Serle Alvan | Agri. | Soph. | Brownsville |
| Doukas, Samuel James | E.E. | Sr. | Portsmouth, Va. |
| Dowd, Charles Dickson | Agri. | Fr. | Fresno, Cal. |
| Dowsett, Gertrude Leone | H.E. | Fr. | Gresham |
| Doyle, Paul Oly | Com. | Voc. | Galena, Pa. |
| Dragoo, Charles Victor | Agri. | Fr. | Spokane, Wash. |
| Drake, Marguerite Elizabeth | Com. | Fr. | Portland |
| Draper, Howard C. | Agri. | Jr. | Highland, Cal. |
| Drew, Hozy Dean | Com. | Soph. | Castle Rock, Wash. |
| Drewett, George Asa | E.E. | Jr. | Prairie City |
| Drill, Ray Homer | M.E. | Fr. | Portland |
| Drilling, Daisy Luella | Com. | Spec. | Astoria |
| Drown, Ashley Marlin | Agri. | Voc. | Ferndale, Wash. |
| Durschel, Mildred Dorothy | H.E. | Fr. | Portland |
| Dryden, Horace Walter | Com. | Fr. | Corvallis |
| Dryden, Winfield Joseph | Com. | Jr. | Corvallis |
| Duffy, Michael Donald | E.E. | Soph. | Portland |
| Dugan, William Harold | Com. | Fr. | Cottage Grove |
| Duke, George | Com. | Soph. | Sutherlin |
| Duke, William Douglas | Com. | Soph. | Sutherlin |
| Dunagan, Ruth | Com. | Fr. | Portland |
| Duncan, Clifford Woodard | Ch.E. | Soph. | Portland |
| Duncan, Gordon Alexander | For. | Soph. | Portland |
| Duncan, Robert Orville | Com. | Fr. | Oswego |
| Duncan, Vernon Pantall | Phar. | Soph. | Corvallis |
| Dungan, Ruth Phillips | H.E. | Jr. | Portland |
| Dunham, Mark Waitman | For. | Voc. | Corvallis |
| Dunn, Aileen Lovicia | Phar. | Fr. | Toledo |
| Dunn, Cecil Forrest | Com. | Jr. | Portland |
| Dunn, Paul E. | M.E. | Jr. | Cascade Locks |
| Dunning, Orpha J. | H.E. | Jr. | Stanfield |
| Durant, Ray Frederick | M.A. | Voc. | Woodburn |
| Durbin, Frank Willis | Agri. | Soph. | Salem |
| Durbin, Martin Hobart | M.E. | Soph. | Waldport |
| Durbin, Sarah Thelma | Com. | Soph. | Waldport |
| DuRette, Agnes Isabelle | H.E. | Soph. | Gervais |
| DuRette, Cecil Alexander | M.E. | Jr. | Gervais |
| Durham, Howard McCormack | Agri. | Fr. | Corvallis |
| Durst, John Joseph | Ch.E. | Fr. | Lebanon |
| Dutton, Jean Edward | M.A. | Voc. | Wasco |
| Dyer, Gertrude May | H.E. | Spec. | San Diego, Cal. |
| Dyer, Joseph Melville | M.E. | Soph. | Astoria |
| Dykstra, Theodore Peter | Agri. | Jr. | Condens |
| Eagles, Elizabeth Patricia | H.E. | Fr. | Albany |
| Eastman, Florence Henrietta | Com. | Fr. | Albany |
| Eastman, Olivene Vernice | Com. | Fr. | Albany |
| Easton, Howard | I.A. | Fr. | Albany |
| Easton, Robert Hubbard | Agri. | Fr. | Anaheim, Cal. |
| Edgerton, Harry Lorin | For. | Soph. | Grants Pass |
| Edington, Oliver Sherman | Agri. | Voc. | Forest Grove |
| Edison, Ed T. | Com. | Jr. | Astoria |
| Edwards, Dorothy Margaret | H.E. | Sr. | Monroe |
| Edwards, Elmira Elizabeth | H.E. | Fr. | Corvallis |
| Edwards, Ewart Sargeant | M.E. | Soph. | Dallas |
| Edwards, Floyd Marvin | Agri. | Soph. | Monroe |
| Edwards, Miles Lowell | E.E. | Soph. | Tillamook |
| Effinger, Robert Patterson | M.E. | Soph. | Portland |
| Eggleston, Fitzhugh Lee | Agri. | Soph. | Brownsville |
| Eikelman, Edward Carlyle | Com. | Fr. | San Bernardino, Cal. |
| Eilertsen, John L. | Agri. | Fr. | Clatskanie |
| Ekstrom, Albin LeRoy | M.E. | Jr. | Beaverton |

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|----------------------------|--------|-------|-------------------|
| Elbert, George | M.E. | Soph. | Salem |
| Elde, Charles Tage | Agri. | Fr. | Mt. Vernon, Wash. |
| Eldridge, Cora May | Com. | Fr. | Pendleton |
| Eliasson, Gabriel Benner | M.A. | Voc. | Astoria |
| Eliassen, John | M.A. | Voc. | Astoria |
| Ellestad, John Marvin | Phar. | Fr. | Corvallis |
| Elliott, Jack M. | Com. | Voc. | Corvallis |
| Elliott, John Loughlin | E.E. | Soph. | Klamath Falls |
| Elliott, Virgil Frank | Agri. | Voc. | Bridgeport |
| Ellis, Gertrude Grace | H.E. | Fr. | Dallas |
| Ellis, Jesse Daniel | M.E. | Soph. | Albany |
| Ellis, Lee Dora | Com. | Soph. | La Grande |
| Ellis, Walter Raymond | E.E. | Soph. | Portland |
| Ellwart, Arnold Austin | Agri. | Sr. | Pullman, Wash. |
| Elmer, Katherine Delphine | Ch.E. | Fr. | Boise, Idaho |
| Elmore, John Clifford | Agri. | Soph. | Star, Idaho |
| Elmore, Pitts | E.E. | Fr. | Santa Maria, Cal. |
| Elton, Lydia Louisa | Com. | Soph. | The Dalles |
| Emmel, Royal Charles | Agri. | Soph. | Portland |
| Emmett, Paul Hugh | Ch.E. | Jr. | Portland |
| Emmons, Richard Carpenter | Com. | Spec. | Portland |
| Emrick, Daniel George | Mines. | Soph. | Hillsboro |
| Engen, Minnie | H.E. | Voc. | Patterson, Cal. |
| Engen, Edgar Elliott | Com. | Fr. | Brownsville |
| Enghouse, Clarence Alvin | M.E. | Fr. | Clackamas |
| England, George Barron | M.A. | Voc. | Jamieson |
| Enke, William Herman | Ch.E. | Fr. | Portland |
| Ensign, Raymond Hazelton | Agri. | Voc. | Seattle, Wash. |
| Entriken, Emmett Willard | Agri. | Voc. | Los Angeles, Cal. |
| Epps, Grady David | Mines. | Jr. | Corvallis |
| Ericksen, John Ragnor | M.E. | Fr. | Astoria |
| Erickson, Chester Adrain | M.E. | Fr. | Spokane, Wash. |
| Erickson, Esther Christine | Com. | Fr. | Oswego |
| Erickson, Walter S. | Com. | Soph. | Warren |
| Erwin, Dan B. | C.E. | Soph. | Hillsboro |
| Erwin, Ivor Cecil | Com. | Fr. | Sheridan |
| Eslinger, Hazel | H.E. | Soph. | Grass Valley |
| Etchells, Florence | Com. | Spec. | Portland |
| Etchells, William Albert | E.E. | Spec. | Portland |
| Fahenstock, Edward George | For. | Fr. | Portland |
| Falkenhagen, Dolph George | Com. | Spec. | St. Paul, Minn. |
| Falkoff, Philip | Agri. | Fr. | Madras |
| Fanschier, Roy Austin | Agri. | Spec. | Russia |
| Farnham, Hugh Wilson | Agri. | Fr. | Pendleton |
| Farlow, Leonard Henry | Phar. | Spec. | Hillsboro |
| Farnsworth, Harry Harold | Com. | Fr. | Wamie |
| Farmer, Jamie Robinson | H.E. | Soph. | Corvallis |
| Farrell, Miller Starr | M.E. | Soph. | McMinnville |
| Farris, William Joseph | Com. | Sr. | Portland |
| Faucett, Robert Lund | Com. | Voc. | Duncan |
| Faulconer, Alda Betty | H.E. | Jr. | Stanfield |
| Faurie, Pierre La Verne | Agri. | Fr. | Sheridan |
| Faust, Hulda Jeanette | Com. | Fr. | Molalla |
| Fawcett, Hazel | H.E. | Soph. | Portland |
| Fearnley, Walter LeVeair | Com. | Jr. | Corvallis |
| Feike, Geneva Alice | H.E. | Soph. | Portland |
| Feike, Vivian Addistine | H.E. | Jr. | Portland |
| Feldhusen, John Sierk | Agri. | Fr. | Portland |
| Felker, Maybelle | H.E. | Sr. | Corvallis |
| Feller, Harland Eugene | Agri. | Sr. | Portland |
| Felton, Mrs. Maurine | H.E. | Soph. | Hubbard |
| Fendall, Kenneth Duvall | Agri. | Spec. | Corvallis |
| Fender, Norma V. | H.E. | Jr. | Newberg |
| Fenstermacher, Harry | For. | Fr. | Alsea |
| Fenwick, Walter Franklin | Agri. | Soph. | Fresno, Cal. |
| Ferguson, Clara | Com. | Fr. | Woodlake, Cal. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| Ferguson, Dwight Hayden | Agri. | Fr. | Marshfield |
| Ferguson, Maude | H.E. | Soph. | Portland |
| Ferguson, Natalie | H.E. | Fr. | Walla Walla, Wash. |
| Ferguson, Ruth Gladys | H.E. | Sr. | Walla Walla, Wash. |
| Ferrier, William Kenneth | Ch.E. | Jr. | Portland |
| Feyrer, Francis Joseph | E.E. | Soph. | Portland |
| Finch, Breynton Rickley | E.E. | Spec. | Molalla |
| Finch, Dora Alice | H.E. | Soph. | Ashland |
| Findley, Marcus Bayard | Agri. | Jr. | Portland |
| Fine, Samuel | Agri. | Soph. | Salem |
| Finlay, Edward Arthur | Agri. | Soph. | Attleboro, Mass. |
| Fischer, Louis E. | C.E. | Soph. | Condon |
| Fischer, Mrs. Louis E. | H.E. | Sr. | Corvallis |
| Fish, Edward Hinsdale | Agri. | Spec. | Corvallis |
| Fish, Henry Whipperman | M.E. | Soph. | Bandon |
| Fisher, Adrian Manuel | E.E. | Sr. | Albany |
| Fisher, Henry Clay | Mines. | Fr. | Roseburg |
| Fisher, Roberta Kirk | Com. | Jr. | Orchards, Wash. |
| Fitch, Harvey Charles | Opt. | Fr. | Weiser, Idaho |
| Fitch, Naomi Olive | H.E. | | Ames, Iowa |
| Fitzgerald, Leonard Arthur | C.E. | Jr. | Portland |
| Fitzgerald, Leo Cornelius | Agri. | Soph. | Mills City, Mont. |
| Fitzgerald, Mary Elizabeth | Com. | Spec. | Ferndale, Wash. |
| Fladeland, Albert | Agri. | Fr. | La Grande |
| Flagg, Lawrence Miner | E.E. | Voc. | Corvallis |
| Fleener, Hazel Ilene | H.E. | Soph. | Olympia, Wash. |
| Fletcher, Linna Elizabeth | H.E. | Fr. | Salem |
| Flinn, Helen Jane | H.E. | Fr. | Vancouver, Wash. |
| Flint, Julia Estella | H.E. | Fr. | The Dalles |
| Floyd, Roy Earl | E.E. | Soph. | Beaverton |
| Flint, Mildred | Phar. | Soph. | Enterprise |
| Flynn, Marie Frances | Phar. | Soph. | Junction City |
| Fogle, Willard O. | I.A. | Fr. | Portland |
| Foley, Margaret Ellen | H.E. | Spec. | Bristow, Okla. |
| Foley, Mary Johanna | H.E. | Jr. | Corvallis |
| Foley, Thomas George | Com. | Jr. | Corvallis |
| Folquet, George Henry | Com. | Soph. | Portland |
| Folsom, Jean Jaques | Phar. | Fr. | Woodburn |
| Fones, Gilbert Noel | Agri. | Jr. | Beaumont, Cal. |
| Fonester, Earle Paul | M.A. | Soph. | Corvallis |
| Foote, Sam S. | Com. | Voc. | Buffalo, N. Y. |
| Ford, Adrian McCrea | Agri. | Fr. | Middleton, Idaho |
| Ford, Mrs. Dora Frances | H.E. | Spec. | Astoria |
| Ford, Ernest Everette | E.E. | Spec. | Corvallis |
| Ford, J. Kenneth | Agri. | Fr. | Tillamook |
| Ford, Raymond Theodore | Com. | Sr. | Union |
| Forest, Mildred Margaret | H.E. | Fr. | Tillamook |
| Forrest, Raymond Thomas | E.E. | Soph. | Delta, Utah |
| Forrest, Stewart Robert | For. | Soph. | Portland |
| Fors, Felix Frederick | Com. | Fr. | Rolling Bay, Wash. |
| Forseth, Cora Nathalia | H.E. | Fr. | Portland |
| Fosner, Ruby Luella | Com. | Jr. | Twin Valle, Minn. |
| Foster, Arthur Winterton | Agri. | Spec. | Sherwood |
| Foster, Joe V. | Agri. | Fr. | Fresno, Cal. |
| Foster, William Harry | M.E. | Fr. | Fresno, Cal. |
| Fowler, Ruth C. | Com. | Sr. | Portland |
| Fox, Otto Lee | I.A. | Soph. | Los Angeles, Cal. |
| Frainey, Thomas Joseph | Agri. | Sr. | Lake Creek |
| Franklin, Greeta | H.E. | Voc. | Portland |
| Franklin, George Harold | M.E. | Fr. | Mt. Vernon, Wash. |
| Frakes, Louis Green | Agri. | Soph. | Portland |
| Franklin, Leon J. | Agri. | Fr. | Warner Lake |
| Frantz, Jesse Dale | E.E. | Voc. | Keating |
| Frazier, Donald McCoy | E.E. | Soph. | Marshfield |
| Frazier, Myra Ethel | Com. | Fr. | Ashland |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|---------------------------|-------------------|-------------|----------------------|
| Frease, Helen Miriam | H.E. | Jr. | Salem |
| Frease, Katheryn Gwynetha | H.E. | Sr. | Corvallis |
| Freeland, Elaine Olive | H.E. | Spec. | Corvallis |
| Freeman, Andrew Bert | Agri. | Soph. | Parkplace |
| Freeman, Vernon Neale | Com. | Spec. | Ashland |
| Freitas, Frances Edith | H.E. | Jr. | Moro |
| Fremming, Rolf W. | M.E. | Jr. | Corvallis |
| French, Edward Harwood | Com. | Soph. | Priest River, Idaho |
| Frink, Virgil Jewell | Phar. | Fr. | Medford |
| Fritz, Gilbert E. | Agri. | Jr. | Philomath |
| Fritz, Helen Frances | H.E. | Soph. | National City, Cal. |
| Fritz, Thelma Leavene | Com. | Jr. | National City, Cal. |
| Frizzel, Frank Lee | Com. | Fr. | The Dalles |
| Froome, Kathren | H.E. | Fr. | The Dalles |
| Fry, Orris Judah | Com. | Soph. | Athens |
| Fulkerson, Evelyn Mary | H.E. | Soph. | Salem |
| Fulkerson, Hazel | H.E. | Jr. | Boise, Idaho |
| Fuller, Cecil Robb | Mines. | Jr. | Boise, Idaho |
| Fuller, Lowell Willard | Agri. | Fr. | Portland |
| Fullington, Mary Wilkins | Com. | Jr. | Fresno, Cal. |
| Fulton, Robert | Com. | Jr. | Seattle, Wash. |
| Funk, Luther Lawrence | C.E. | Soph. | Bend |
| Furnish, Blanche Mildred | H.E. | Sr. | Sheridan |
| Gabel, Ruth | H.E. | Soph. | Pendleton |
| Gage, Harold Lee | Mines. | Spec. | Chehalis, Wash. |
| Gain, Mrs. Mercy Jane | Com. | Spec. | Portland |
| Gainer, Ivan Merriwell | Phar. | Sr. | Corvallis |
| Gaither, James Terrence | Com. | Fr. | Lebanon |
| Galbraith, Huxley Lyell | Agri. | Jr. | Toledo |
| Galluzzo, Agnes Agatha | H.E. | Voc. | Hullt |
| Ganoe, Donald James | Agri. | Soph. | Portland |
| Gaona, Eldidio Delmendo | Agri. | Soph. | Ogden, Iowa |
| Garber, Ethel Gertrude | Com. | Jr. | Philippine Islands |
| Garber, Joseph Elmo | Agri. | Fr. | Nampa, Idaho |
| Garber, Richard Otis | Com. | Voc. | Denver, Colo. |
| Gardner, Earl Andrew | Agri. | Fr. | Freewater |
| Gardner, Esther Marie | Com. | Fr. | Puyallup, Wash. |
| Garhardt, Malcolm E. | Com. | Sr. | Portland |
| Garity, John Raymond | Com. | Jr. | Noblesville, Ind. |
| Garman, John C. | E.E. | Fr. | La Grande |
| Garnjobst, Laura Florian | H.E. | Jr. | Portland |
| Garrett, Elizabeth | Com. | Jr. | Salem |
| Garrison, Gladys Marie | H.E. | Fr. | San Francisco, Cal. |
| Garst, Clyde Winder | Agri. | Fr. | Scappoose |
| Gasman, Ethel | Phar. | Jr. | Dayton, Ohio |
| Gasman, Gerda | H.E. | Fr. | Spokane, Wash. |
| Geiberger, Edna Alvina | Com. | Voc. | Spokane, Wash. |
| Geiberger, Ray Charles | Agri. | Soph. | Tualatin |
| Geiberger, William John | E.E. | Jr. | Tualatin |
| George, Henry Lawrence | Agri. | Fr. | Tualatin |
| George, Theodore Edward | Phar. | Spec. | Cushman |
| Gerboth, Albert Marion | Mines. | Fr. | La Grande |
| Gerdes, Harry Lee | Agri. | Fr. | Jerome, Idaho |
| Gerhart, Thomas Meredith | Mines. | Voc. | Yakima, Wash. |
| Gerity, Clair Eugene | E.E. | Fr. | San Bernardino, Cal. |
| Gervais, Louis | E.E. | Fr. | Astoria |
| Gibbard, Katheryn Louise | For. | Soph. | Corvallis |
| Gibbons, Eleanor | H.E. | Fr. | Salem |
| Gibbons, James Lane | H.E. | Fr. | Corvallis |
| Gibbons, Ora Grace | Agri. | Sr. | Corvallis |
| Gibson, Albert Sylvester | Phar. | Fr. | Corvallis |
| Gibson, Orville Henry | Com. | Voc. | Corvallis |
| Giebisch, Gordon | C.E. | Fr. | Parma, Idaho |
| Giem, Ross Nye | M.E. | Fr. | The Dalles |
| | Agri. | Soph. | Portland |
| | | Voc. | Eugene |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|---------------------|
| Giem, Mrs. Ross Nye | H.E. | Fr. | Eugene |
| Giesy, Ralph Griffith | Com. | Fr. | Portland |
| Gilbert, Glenn | Com. | Soph. | Albany |
| Gilbert, Curtiss Richey | Agri. | Spec. | Yakima, Wash. |
| Gilbert, Philip B. | For. | Soph. | Long Beach, Cal. |
| Gildersleeve, Charles Leland | C.E. | Jr. | Toledo |
| Giles, Lauris Norma | H.E. | Fr. | Roseburg |
| Gilkerson, William Bachelor | E.E. | Soph. | Hood River |
| Gilkey, Franklin E. | Agri. | Soph. | Scio |
| Gill, Armory Tingle | Com. | Fr. | Salem |
| Gill, Eugene Luke | Agri. | Fr. | Salem |
| Gill, Whitney Geo | Agri. | Jr. | Salem |
| Gill, Harold David | E.E. | Soph. | Portland |
| Gillam, Herman P. | E.E. | Jr. | Amity |
| Gillette, Arthur Fay | Agri. | Sr. | La Verne, Cal. |
| Gillette, Earl J. | Agri. | Soph. | La Verne, Cal. |
| Gillette, Edith | H.E. | Jr. | La Verne, Cal. |
| Gillis, Gene Alan | Ch.E. | Soph. | Portland |
| Gilmore, Gretchen Grace | Phar. | Spec. | Junction City |
| Gilstrap, Alice Gertrude | H.E. | Jr. | Portland |
| Gilstrap, Clarence Lee | Phar. | Fr. | Portland |
| Ginn, Richard Warner | Com. | Soph. | Moro |
| Gist, Floyd L. | Agri. | Soph. | Pomona, Cal. |
| Givan, Fay Augustus | Agri. | Soph. | Medford |
| Glaser, John | Agri. | Spec. | Lebanon |
| Glassey, Theodore William | Agri. | Fr. | Albany |
| Glatt, Crescentia M. | H.E. | Jr. | Woodburn |
| Gloman, Joseph Story | Agri. | Sr. | Corvallis |
| Glossop, Esmond | Com. | Soph. | Marshfield |
| Glossop, Herman Fred | C.E. | Jr. | Marshfield |
| Glower, Ethel Vera | Com. | Fr. | Portland |
| Glumace, Tony | Agri. | Voc. | Los Angeles, Cal. |
| Goble, Ross Arden | Agri. | Fr. | Fortuna, Cal. |
| Godfrey, Jewell | Agri. | Spec. | Helena, Mont. |
| Goeldner, Mona Du Ella | H.E. | Fr. | McMinnville |
| Goerig, Clara Minerva | H.E. | Soph. | Woodland, Wash. |
| Goetz, Kenneth Harold | M.E. | Soph. | Portland |
| Goff, Lorena | H.E. | Fr. | Corvallis |
| Goff, Othel Guy | E.E. | Soph. | Corvallis |
| Golden, Annabel Isabelle | Com. | Fr. | Salem |
| Golden, Ruth Annette | Com. | Fr. | Marshfield |
| Golden, Virgil Thomas | Com. | Spec. | Salem |
| Golden, William Elias | M.A. | Voc. | End |
| Gooch, Sylvia Geneva | Phar. | Jr. | Klamath Falls |
| Gooch, Willard | Agri. | Fr. | Rivera, Cal. |
| Good, Merrill Roy | C.E. | Soph. | Gresham |
| Good, Mervin Ray | Com. | Soph. | Gresham |
| Goodale, Chester Harold | Phar. | Soph. | Warrenton |
| Goodale, Harold Carleton | Agri. | Sr. | Anaheim, Cal. |
| Goodale, Ralph Herbert | Agri. | Soph. | Anaheim, Cal. |
| Goode, George Albert | Com. | Voc. | Portland |
| Goodell, Edward Stanley | Com. | Soph. | Junction City |
| Goodlin, Emil Clair | Agri. | Fr. | Junction City |
| Goodrich, Dolph Allen | Agri. | Soph. | Dayton |
| Gorden, Fred | Agri. | Voc. | Ft. Klamath |
| Gorden, Robert R. | Agri. | Jr. | Klamath |
| Goresline, Harry E. | Ch.E. | Soph. | Corvallis |
| Goresline, Mrs. Lucille D. | H.E. | Fr. | Corvallis |
| Gorrie, Margaret Mae | Phar. | Jr. | Springfield |
| Gottlieb, Abraham | Com. | Spec. | Russia |
| Goudy, Elmer Raymond | Agri. | Soph. | Portland |
| Gould, Curtis E. | For. | Jr. | Hood River |
| Gourley, Harold B. | Phar. | Soph. | Corvallis |
| Gradon, Florence Walter | Com. | Fr. | Portland |
| Graef, John Anton | Agri. | Fr. | Portland |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------------|-------------------|-------------|---------------------|
| Gragasin, Calixto | Phar..... | Soph. | Philippine Islands |
| Gragg, Bessie | H.E. | Jr. | Corvallis |
| Gragg, George Steven | Agri. | Spec. | Corvallis |
| Graham, Thomas R. | Phar. | Spec. | Corvallis |
| Granberg, Ida Josephine | Com. | Fr. | Portland |
| Granrud, Harold H. | Ch.E. | Jr. | Tacoma |
| Graves, Raymond Fred | Com. | Soph. | Filer, Idaho |
| Gray, Donald Wallace | C.E. | Fr. | Marshall, Minn. |
| Gray, E. Glenva | H.E. | Jr. | Corvallis |
| Gray, George Nathan | Agri. | Fr. | Ashland |
| Gray, John Clarence | E.E. | Soph. | Santa Rosa, Cal. |
| Gray, Joseph A. | M.E. | Jr. | Corvallis |
| Graybill, Estelle Varell | H.E. | Spec. | La Grande |
| Grebel, Bernadean Helen | H.E. | Fr. | Portland |
| Green, Cloyd William | Com. | Fr. | Fresno, Cal. |
| Green, Ferris Milton | Agri. | Jr. | Phoenix, Arizona |
| Green, Wellington Seth | Com. | Jr. | Pasadena, Cal. |
| Greene, Forest Barton | C.E. | Soph. | Myrtle Point |
| Greene, Julia | H.E. | Jr. | Alturas, Cal. |
| Greer, Mervin Turk | Ch.E. | Fr. | Portland |
| Gregg, Glenn Harold | I.A. | Soph. | Salem |
| Gregg, Lloyd Bert | Com. | Jr. | Salem |
| Gregg, Vernon L. | Agri. | Jr. | Anaheim, Cal. |
| Gregson, Agnes Irene | H.E. | Sr. | Scio |
| Grey, Alice Catherine | H.E. | Spec. | Portland |
| Gribble, Estes D. | Com. | Fr. | Aurora |
| Gribble, Samuel Oliver | Com. | Fr. | Aurora |
| Gribskov, Valborg | H.E. | Jr. | Junction City |
| Griffe, Willet E. | I.A. | Soph. | Corvallis |
| Griffith, Lewis D. | Com. | Jr. | Salem |
| Griggs, Cecil Lawrence | Agri. | Fr. | Eugene |
| Grigwire, Edwin Forrest | Agri. | Voc. | Portland |
| Grimm, Frank Lawrence | C.E. | Soph. | Corvallis |
| Griswold, Dorothy Dee | H.E. | Spec. | Kirkland, Wash. |
| Groce, Eustice Cecil | For. | Spec. | Portland |
| Groce, Ruth Blanche | H.E. | Spec. | Portland |
| Groseclose, J. Blaine | Agri. | Voc. | Juliaette, Idaho |
| Grove, Clark Donald | M.E. | Soph. | Corvallis |
| Grover, James Richard | For. | Fr. | Newport, Wash. |
| Grove, Maynard Owen | E.E. | Soph. | Corvallis |
| Groves, Frank William | Agri. | Jr. | Lebanon |
| Groves, Hiram Raymond | Phar. | Fr. | Lebanon |
| Grubb, Wendell | C.E. | Jr. | Halfway |
| Guedes, Joas Ferreira | Agri. | Spec. | Brazil |
| Gulliford, Claire Harrison | Agri. | Voc. | Hermiston |
| Gunderson, Louis Martin | Com. | Voc. | Mt. Vernon, Wash. |
| Gunter, Paul Albert | C.E. | Spec. | Gunter |
| Gunther, Edna Catherine | Com. | Voc. | Portland |
| Gustin, Kenneth Plants. | Com. | Soph. | Portland |
| Guthrie, Eunice Jane | H.E. | Sr. | Corvallis |
| Gurnee, Donald Hewitt | C.E. | Fr. | Portland |
| Hackett, Theodore Allingham | E.E. | Fr. | Hood River |
| Hadley, Mrs. Marie Genevieve | Com. | Soph. | Eugene |
| Hadley, Robert A. | Com. | Fr. | Portland |
| Havernick, Ernest Jerome | Com. | Fr. | Silverton |
| Hagedorn, Oral Orvan | Phar. | Fr. | Salem |
| Hague, Raymond J. | Agri. | Voc. | Corvallis |
| Hahn, Rose Marie | H.E. | Soph. | Corvallis |
| Haid, Usona Emelyn | Com. | Fr. | Salem |
| Haight, Henry Mylon | E.E. | Soph. | Saginaw |
| Haight, Mary Frances | Agri. | Soph. | Saginaw |
| Haines, Bernice Mae | H.E. | Sr. | Portland |
| Haines, Clair David | Com. | Soph. | Lebanon |
| Haines, Harold Post | Com. | Spec. | Marshfield |
| Haines, Marcus W. | Agri. | Voc. | Elkton |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|---------------------|
| Haley, Susan Baldwin | Com. | Jr. | New York City |
| Hall, Bertrand M. | Com. | Soph. | Portland |
| Hall, Harold | Agri. | Fr. | Union |
| Hall, Hazel Audrey | H.E. | Soph. | Albany |
| Hall, John Hubert | Com. | Soph. | Portland |
| Hall, Kenneth B. | M.E. | Sr. | Portland |
| Hall, Lucian J. | Agri. | Fr. | Corvallis |
| Hall, Mary M. | H.A. | Sr. | Olds, Alberta, Can. |
| Hall, Melvin Louis | Com. | Jr. | Portland |
| Hall, Neill Dawson | M.E. | Jr. | Woodburn |
| Hall, Oliver Thomas | Agri. | Voc. | Portland |
| Hall, Thorland R. | Agri. | Sr. | Yakima, Wash. |
| Hamblen, Kenneth Earle | Mines | Jr. | Portland |
| Hamblet, Uriah Randel | Agri. | Fr. | Dauton |
| Hamill, Robert Michel | Mines | Soph. | Portland |
| Hamilton, Blanche Angele | Opt. | | Anacortes, Wash. |
| Hamilton, Mary Isabella | H.E. | Fr. | Albany |
| Hamilton, Wilbert Ernest | Com. | Fr. | Dallas |
| Hamlin, Carroll Everett | Phar. | Fr. | Corvallis |
| Hamm, Charles Henry | Agri. | Spec. | Seattle, Wash. |
| Hammersley, Ward | E.E. | Fr. | Alsea |
| Hammond, Louise Kerr | H.E. | Sr. | Corvallis |
| Hamner, Dyson Svenson | M.E. | Soph. | Corvallis |
| Hampton, Thomas Eugene | Agri. | Sr. | Pendleton |
| Hampton, Ray Benjamin | Agri. | Soph. | Randle, Wash. |
| Hanbury, Alfred Willia | Agri. | Soph. | Victoria, B. C. |
| Hancock, Charles Shannon | Opt. | | Forest Grove |
| Hanger, Michael Reid | E.E. | Fr. | Portland |
| Hanger, Rachel Louise | Opt. | | Kalispell, Mont. |
| Hann, Ellen | H.E. | Fr. | Orland, Cal. |
| Hannon, Tommie | Com. | Fr. | Corvallis |
| Hansen, Carl Vitollis | Com. | Fr. | The Dalles |
| Hansen, Gertrude Elsie | Phar. | Fr. | Portland |
| Hansen, Margaret | Com. | | Corvallis |
| Hansen, Morton Herman | Phar. | Fr. | Junction City |
| Hansen, Roosevelt | Phar. | Fr. | Junction City |
| Hanson, Opal Marie | H.E. | Soph. | Boone, Iowa |
| Happold, Pauline | Com. | Spec. | Klondike |
| Harbeke, Helen Mate | Com. | Sr. | Maryhill, Wash. |
| Hardebeck, Clarence William | M.E. | Jr. | Dilley |
| Harden, Glenn Robert | Phar. | Soph. | Corvallis |
| Harden, Marian Evelyn | Phar. | Spec. | Corvallis |
| Hardie, Alex Dewey | Agri. | Jr. | Condon |
| Harding, Margaret M. | Com. | Fr. | Tacoma, Wash. |
| Hardy, Melbourne Edward | Agri. | Spec. | Portland |
| Hargett, Ralph Eugene | Phar. | Soph. | Holdman |
| Harlan, Theodore Alfred | E.E. | Fr. | Alpine |
| Harlocker, Fred Lentner | Com. | Fr. | Coquille |
| Harnisch, Henry | M.E. | Soph. | Albany |
| Harnish, Hedwig Hazel | H.E. | Spec. | Myrtle Point |
| Harnish, Margaret Frances | H.E. | Spec. | Myrtle Point |
| Harper, Robert McCreary | Agri. | Soph. | Gervais |
| Harper, Vernon Willard | M.E. | Jr. | Corvallis |
| Harper, Wilbur Milton | M.E. | Spec. | Corvallis |
| Harper, William George | Agri. | Jr. | Corvallis |
| Harpham, Edward Everett | Com. | Spec. | Roseburg |
| Harriman, Orin Burton | E.E. | Spec. | Portland |
| Harris, Arthur Johnson | Agri. | Soph. | Corvallis |
| Harris, Esther Herschel | H.E. | Jr. | Fresno, Cal. |
| Harris, Herbert V. | E.E. | Jr. | Corvallis |
| Harris, James William | Agri. | Voc. | Sunnyside, Wash. |
| Harris, Lillian | Com. | Soph. | Seaside |
| Harris, Pearl Callaway | H.E. | Jr. | Portland |
| Hart, Harold Norris | Ch.E. | Fr. | Corvallis |
| Hartley, Elma Loleta | Opt. | | Vancouver, Wash. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|------------------------|
| Hartman, Charles Harold | Agri. | Sr. | Hollister, Cal. |
| Hartung, Dorothy H. | H.E. | Jr. | Eugene |
| Hartung, Frederick Elmer | Agri. | Jr. | Eugene |
| Hartzell, Wilbur Wright | Agri. | Fr. | Medford |
| Harvey, Andrew Frank | M.E. | Fr. | Pendleton |
| Harvey, Joseph Paul | Ch.E. | Sr. | Portland |
| Harvey, Ruth Frances | H.E. | Fr. | Portland |
| Harwood, Clarence Henry | M.E. | Fr. | Silverton |
| Hasbrouck, Harold Eugene | Agri. | Fr. | Nampa, Idaho |
| Haskell, Eleanor Lorada | H.E. | Soph. | Portland |
| Haslem, Frances Mildred | Com. | Fr. | Cathlamet, Wash. |
| Haslem, Walter Louren | Com. | Soph. | Cathlamet, Wash. |
| Haslett, Robert Edward | M.A. | Voc. | Chico, Cal. |
| Hathaway, Gail Abner | C.E. | Jr. | Corvallis |
| Hathaway, Otto Emerson | Com. | Jr. | Corvallis |
| Hathaway, Rudolph Edison | Agri. | Soph. | Corvallis |
| Houck, Ralph Homer | Com. | Fr. | Bend |
| Hauge, Osmond J. | Agri. | Sr. | Woodburn |
| Hawk, Ralph Ellsworth | Agri. | Voc. | Bellingham, Wash. |
| Hawkins, Leroy Alva | M.E. | Fr. | Mill City |
| Hawley, Charles Dimmick | M.E. | Fr. | Multnomah |
| Hawley, Lawrence Glenn | Agri. | Fr. | Melba, Idaho |
| Haworth, Alfred Roscoe | Agri. | Sr. | Newberg |
| Hayden, Erma Eileen | Com. | Soph. | Creston, B. C., Canada |
| Hayes, William Brewster | Agri. | Sr. | Pasadena, Cal. |
| Haynes, Joe David | Agri. | Jr. | The Dalles |
| Haynes, Ralph Frederic | E.E. | Fr. | Kent |
| Haynes, Ross Eaton | Com. | Soph. | Lebanon |
| Haynie, William Claire | Phar. | Fr. | Halfway |
| Hays, Harry Leslie | Agri. | Fr. | Hood River |
| Hayslip, Earl E. | For. | Sr. | Vancouver, Wash. |
| Hayter, Charles C. | M.E. | Soph. | Dallas |
| Hazen, Homer Harold | Agri. | Fr. | Snohomish, Wash. |
| Hazen, Oliver Miner | Com. | Soph. | Snohomish, Wash. |
| Hazen, Winnifred | H.E. | Sr. | Snohomish, Wash. |
| Hazard, Donald Stevenson | Mines | Fr. | Whittier, Cal. |
| Healey, Louise Welhelmina | Com. | Fr. | Portland |
| Healey, Roger Dewey | For. | Sr. | Langford, S. Dakota |
| Hearn, Berthold Edgar | Com. | Soph. | Phoenix |
| Heaen, Mabel Irene | Com. | Soph. | Phoenix |
| Heath, Gay Mackenzie | Agri. | Soph. | Portland |
| Heath, James Adrian | For. | Soph. | Raymond, Wash. |
| Heath, William Kelly | Agri. | Fr. | Buhl, Idaho |
| Heckart, Vernon M. | I.A. | Spec. | Corvallis |
| Hedberg, Clarence Elwood | M.E. | Soph. | Ashland |
| Heffeman, Cyril James | Agri. | Spec. | Derchester, Mass. |
| Heikka, Hillie Fred | Agri. | Voc. | Kelso, Wash. |
| Heilman, Clyde Arlington | Agri. | Voc. | Los Angeles, Cal. |
| Heilman, Ernest Daniel | M.E. | Fr. | Brooklyn, N. Y. |
| Heinz, Winnifred | Com. | Fr. | McMinnville |
| Heiss, William V. | Agri. | Sr. | Pasadena, Cal. |
| Heller, William Charles | Com. | Spec. | McKinley |
| Helm, George Darby | Opt. | | Paris, Texas |
| Helm, Irma May | H.E. | Fr. | Hillsboro |
| Helm, Owen Raymo | Agri. | Voc. | Hillsboro |
| Helmer, Lucille Evelyn | Com. | Fr. | Portland |
| Helmer, Oscar Marion | Ch.E. | Jr. | Portland |
| Helsley, John Albert | Com. | Jr. | Denison, Iowa |
| Henderson, Charles Franklin | Agri. | Fr. | Palo Alto, Cal. |
| Henderson, Donald Tregea | Agri. | Fr. | Bingen, Wash. |
| Henderson, Gene Marjorie | Com. | Jr. | Waterville, Wash. |
| Henderson, George | Com. | Sr. | Barstow, Cal. |
| Henderson, Vera Seffert | Phar. | Fr. | Corvallis |
| Henderson, William Kenneth | C.E. | Fr. | San Bernardino, Cal. |
| Hendricks, Ida Belle | H.E. | Sr. | Woodburn |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|---------------------|
| Hendrickson, Willard Adolph | Agri. | Fr. | Portland |
| Henion, Rhoda Louise | H.E. | Spec. | Issaquah, Wash. |
| Henkle, Mark Forrest | Agri. | Fr. | Moro |
| Hennagin, Pearl | H.E. | Soph. | Moro |
| Henry, Ernest Edson | Agri. | Sr. | Pullman, Wash. |
| Henry, Max | Com. | Voc. | Jerome, Idaho |
| Heppner, William Freeman | Mines | Fr. | Portland |
| Herlihy, Lester Barry | Agri. | Fr. | Portland |
| Herman, Edward Heingerford | Agri. | Spec. | Boone, Iowa |
| Herman, Otto Henry | C.E. | Jr. | Astoria |
| Herron, Paul Alon | For. | Spec. | Portland |
| Herse, Bertha Emma | H.E. | Sr. | Corvallis |
| Hershner, Frances Marion | Ch.E. | Jr. | Portland |
| Heslin, John C. | M.E. | Fr. | Fairview |
| Hesse, Victor Otto | C.E. | Jr. | Portland |
| Hesseltine, Earl Handley | Agri. | Sr. | Tulare, Cal. |
| Heston, Alfred Camby | Agri. | Fr. | Portland |
| Hetherington, Thelma M. | H.E. | Fr. | Powers |
| Heuvel, Lee James | Phar. | Spec. | Portland |
| Hewett, Opal E. | Phar. | Soph. | Independence |
| Hewett, Thomas Henry | Phar. | Soph. | Portland |
| Heyden, Theodore A. | Agri. | Jr. | Pendleton |
| Hiatt, Harlan Clarke | For. | Fr. | Portland |
| Hickethiere, Carl Richard | Agri. | Voc. | Portland |
| Hicking, Merrill Radcliffe | Phar. | Fr. | Bandon |
| Hicking, William Henry | Phar. | Soph. | Bandon |
| Hickok, Clarence William | M.E. | Spec. | McMinnville |
| Hicks, Hazel Ione | H.E. | Sr. | Weiser, Idaho |
| Higby, Katherine | H.E. | Jr. | Forest Grove |
| Hilderbrand, Joe Michael | Agri. | Spec. | Wasco |
| Hileman, Walden Walter | M.A. | Voc. | Mabel |
| Hill, Elizabeth Stewart | Com. | Jr. | Medford |
| Hill, Florence Arvitt | H.E. | Spec. | Gold Beach |
| Hill, John Pearson | Agri. | Spec. | Corvallis |
| Hillis, William Lawrence | M.E. | Fr. | Portland |
| Hills, Margaret Marian | H.E. | Fr. | Echo |
| Hillstrom, Rudolph John | M.E. | Jr. | Marshfield |
| Henricksen, Alslaug Marie | Agri. | Spec. | Denmark |
| Hitzler, Benjamin Lucian | E.E. | Fr. | Medford |
| Hixson, Augustus | Com. | Soph. | Portland |
| Hixson, Raymond Floyd | Agri. | Soph. | La Verne, Cal. |
| Hjelte, Marshall | Agri. | Fr. | Oakland, Cal. |
| Hoag, Joe Burrows | Agri. | Spec. | Portland |
| Hobart, Alvin Dewey | Agri. | Sr. | Silverton |
| Hobart, Anna Marie | H.E. | Soph. | Silverton |
| Hobbs, Frances La Vern | Opt. | | Corvallis |
| Hochstetler, Simon M. | Agri. | Voc. | Woodburn |
| Hockman, Ruth Marguerite | Com. | Fr. | Portland |
| Hodl, Herman John | Com. | Voc. | Portland |
| Hodler, Albert | Com. | Soph. | Portland |
| Hodson, Dorothy Martha | H.E. | Fr. | Newberg |
| Hoefler, Myron Page | Com. | Soph. | Astoria |
| Hoefler, Raymond Orion | M.A. | Voc. | Astoria |
| Hoffer, Dan | C.E. | Soph. | Eugene |
| Hoffman, Emmett Merle | Com. | Jr. | Grants Pass |
| Hoffman, Frank Richard | Com. | Spec. | Passaic, N. Y. |
| Hoffman, Jake B. | M.A. | Voc. | Corvallis |
| Hoffman, Olivia | H.E. | Soph. | Bacona |
| Hoflich, Anna Irene | H.E. | Fr. | Albany |
| Hogg, John Glenn | Agri. | Jr. | Salem |
| Hogg, Roland Valentine | Agri. | Soph. | Salem |
| Hogshire, Joann | H.E. | Sr. | Portland |
| Holcomb, Ernest James | Com. | Fr. | Portland |
| Holcomb, Fern | Com. | Jr. | Los Angeles, Cal. |
| Holgate, Leo Lester | Com. | Soph. | Sutherlin |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|----------------------|
| Hollenbeck, Marie Lillian | Phar. | Fr. | Battle Ground, Wash. |
| Hollenberg, Alvin Herbert | Com. | Fr. | Corning, Cal. |
| Hollinger, Mertroe Wenn | Com. | Soph. | Portland |
| Holm, Frankie | H.E. | Fr. | Corvallis |
| Holm, Mabel Violet | Com. | Fr. | Tigard |
| Holman, Irma LaVerne | H.E. | Soph. | Albany |
| Holmes, Lee Stanley | For. | Jr. | Portland |
| Holmes, Mary Achsah | H.E. | Soph. | Medford |
| Holmes, Mary Vincent | Phar. | Sr. | Portland |
| Holmes, Volney Eugene | Agri. | Jr. | Shedd |
| Holmquist, Dewey | Com. | Fr. | San Diego, Cal. |
| Holroyd, Harry W. | C.E. | Soph. | Corvallis |
| Holt, Ethel Marie | Com. | Soph. | Pasco, Wash. |
| Holtgren, Clifford Claude | E.E. | Fr. | Corvallis |
| Holtgreve, Albert Louis | Com. | Spec. | Portland |
| Hood, Ross | Com. | Soph. | Wallowa |
| Hooper, Lester Elmer | Agri. | Voc. | Amboy, Wash. |
| Hooper, Louise | H.E. | Fr. | Amboy, Wash. |
| Hooten, Arthur Leroy | E.E. | Jr. | Coquille |
| Hoover, Bessie Ellen | H.E. | Sr. | Albany |
| Hoover, Charles Robert | Agri. | Voc. | Chase, Mich. |
| Hoover, Theron Curtis | Com. | Sr. | Salem |
| Hopkins, Horace Llewellyn | Agri. | Jr. | Corvallis |
| Hopper, Richard Homer | E.E. | Soph. | Nolin |
| Horn, Elliott Eugene | Agri. | Fr. | Pasadena, Cal. |
| Horseman, Theron Eugene | M.E. | Soph. | Portland |
| Houston, Paul Watson | C.E. | Jr. | Topeka, Kans. |
| Hout, Lillian | Com. | Fr. | Corvallis |
| Houtsma, Sam | Agri. | Voc. | Corvallis |
| Hovendon, Grace Bonita | H.E. | Jr. | Portland |
| Howard, Clement M. | Com. | Sr. | Corvallis |
| Howard, Clifton Hale | Phar. | Soph. | Lakeview |
| Howard, John Hasler | Agri. | Fr. | Oak Grove |
| Howard, Robert Madison | I.A. | Spec. | Corvallis |
| Howard, Ruth Hazel | H.E. | Spec. | Corvallis |
| Howd, Otis Theron | Agri. | Voc. | Dryad, Wash. |
| Howe, Cecil Bernard | M.A. | Voc. | Brownsville |
| Howe, Margaret | Com. | Fr. | Waterville, Wash. |
| Howey, Mary Olive | H.E. | Sr. | Corvallis |
| Howland, Eleanor A. | Com. | Soph. | Portland |
| Howland, William Isaac | Agri. | Voc. | Newberg |
| Howser, Chester J. | Com. | Spec. | Corvallis |
| Hoy, Elvin Albert | M.E. | Fr. | Portland |
| Hoyt, Myron Sears | Com. | Soph. | Mt. Jackson |
| Hubbard, Clyde W. | Phar. | Sr. | Weiser, Idaho |
| Hubbard, Eugene Field | Agri. | Soph. | Corvallis |
| Hubbard, Ina Mary | Phar. | Sr. | Rickreall |
| Hudson, Emil Paul | C.E. | Soph. | Crabtree |
| Huff, Frances Clara | Com. | Fr. | Baker |
| Huffaker, Neal McMillan | C.E. | Sr. | Corvallis |
| Hughes, Robert Emmett | Phar. | Sr. | Heppner |
| Hughes, Thelma Martha | H.E. | Fr. | Talent |
| Hughson, Elizabeth Laurana | H.E. | Soph. | Corvallis |
| Hukill, Bertha Esther | H.E. | Soph. | Corvallis |
| Hukill, William Virgil | M.E. | Jr. | Corvallis |
| Hull, Edward Benoist | Agri. | Voc. | Corvallis |
| Hultquist, Franz Leonard | M.E. | Jr. | Portland |
| Humble, Eugene Albert | M.E. | Fr. | Mt. Solo, Wash. |
| Humfeld, John | Com. | Fr. | Portland |
| Humphrey, Edward Kinsel | C.E. | Voc. | Corvallis |
| Humphrey, Fred Homan | Com. | Soph. | Portland |
| Humphrey, Indianus Andrew | Agri. | Jr. | Corvallis |
| Humphrey, James Warren | Agri. | Spec. | San Francisco, Cal. |
| Humphrey, Winfred Erle | E.E. | Jr. | Klamath Falls |
| Humphreys, Grace Kathryn | Com. | Soph. | Shaw |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| Hunstock, Parham I. | M.E. | Soph. | Baker |
| Hunsperger, Nora Violet | H.E. | Jr. | Corvallis |
| Hunstock, Ruth Shepard | H.E. | Spec. | Ritzville |
| Hunt, Grace Lorene | Com. | Fr. | Salem |
| Hunter, Allyn R. | Agri. | Fr. | La Grande |
| Hunter, Kenneth Matthew | Phar. | Fr. | Portland |
| Huntington, Mary | H.E. | Jr. | Yoncalla |
| Huntington, Sara | H.E. | Soph. | Yoncalla |
| Hunting, Henry Marshall | Agri. | Soph. | Silver Creek, Wash. |
| Hurd, Clinton Tennyson | E.E. | Soph. | Aberdeen, Wash. |
| Hurd, Mildred Grace | H.E. | Soph. | Corvallis |
| Hurley, Gladys Mary | Opt. | | Boise, Idaho |
| Hurt, Dorothea Martha | Com. | Voc. | Corvallis |
| Husbands, Emily Rozella | H.E. | Sr. | Mosier |
| Husby, Earle A. | Mines | Soph. | Portland |
| Husted, Viola Belle | Com. | Soph. | Ontario |
| Hutchings, Earle Albert | Com. | Spec. | Corvallis |
| Hyatt, Waldron | C.E. | Jr. | Willamette |
| Hylander, Grant Oberlin | Com. | Soph. | Portland |
| Imlah, Frances Mildred | Com. | Fr. | Salem |
| Immel, Helen Valentine | H.E. | Jr. | Oakland, Cal. |
| Ingalls, Darwin Albert | E.E. | Sr. | Wilderville |
| Ingalls, Wilma Edwina | Com. | Fr. | Lebanon |
| Ingals, Mary Goodell | H.E. | Spec. | Chicago, Ill. |
| Ingham, Emory Claire | C.E. | Jr. | Portland |
| Ingleton, James William | M.A. | Voc. | Astoria |
| Ingram, Derrell Wilford | Com. | Voc. | Harrisburg |
| Ingram, Fred | C.E. | Jr. | Monroe |
| Ingram, Oliver Nelson | E.E. | Fr. | Hoquiam |
| Ireland, David Kenneth | Com. | Jr. | Bellingham, Wash. |
| Ireland, Marjorie Alice | Com. | Soph. | Pendleton |
| Irving, Robert Lewis | Agri. | Fr. | Wilbur |
| Irwin, Ordo William | Com. | Jr. | Oakley, Kansas |
| Isaacson, Myrtle Clarinda | H.E. | Jr. | Marshfield |
| Jackman, Louise | Com. | Jr. | Lynden, Wash. |
| Jackman, Orel Eva | H.E. | Sr. | Lynden, Wash. |
| Jackson, Charles Alvie | Agri. | Voc. | Corvallis |
| Jackson, Dean Burdett | M.E. | Soph. | Baker |
| Jackson, Eldon E. | Agri. | Spec. | Middleton, Idaho |
| Jackson, Emily S. | H.E. | Spec. | Portland |
| Jackson, Glen Lawrence | Com. | Fr. | Albany |
| Jackson, Mildred Mae | Com. | Jr. | Corvallis |
| Jackson, Paul | Agri. | Fr. | Whittier, Cal. |
| Jackson, Ross Thomas | Phar. | Fr. | Fresno |
| Jackson, Roy Eynar | Com. | Soph. | Molalla |
| Jackson, Wayne Chester | E.E. | Soph. | Molalla |
| Jacobs, Carl C. | Com. | Spec. | Corvallis |
| Jacobs, Esther A. | Com. | Spec. | Corvallis |
| Jacobsen, Leslie Archibald | Agri. | Fr. | Fresno, Cal. |
| Jacobsen, Myrtle Adele | H.E. | Fr. | Portland |
| Jacobson, Alvin Edward | C.E. | Soph. | La Grande |
| Jacobson, Elna Amelia | Com. | Fr. | Astoria |
| Jacobson, Elsie Elvera | H.E. | Fr. | Astoria |
| Jamieson, Edna Vere | H.E. | Soph. | Jewell |
| Jankowsky, George Herman | For. | Fr. | Portland |
| January, Gladys Leona | H.E. | Fr. | Corvallis |
| Jarmin, Marc Burdette | Phar. | Soph. | Corvallis |
| Jarmon, Anna Beryl | H.E. | Fr. | Echo |
| Jarvis, James William | Agri. | Fr. | Corvallis |
| Jasper, Merrell Clair | M.E. | Sr. | Wilder, Idaho |
| Jeffries, Alfred | E.E. | Spec. | McMinnville |
| Jellison, Robert Lyle | M.A. | Voc. | Santa Ana, Cal. |
| Jenkins, Amiette | H.A. | Fr. | Tillamook |
| Jenkins, Doris Mildred | H.E. | Sr. | Los Angeles, Cal. |
| Jenks, James William | Phar. | Fr. | Tangent |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| Jenks, Marylee | H.E. | Sr. | Tangent |
| Jenner, Anna Nita | Com. | Spec. | Corvallis |
| Jenner, Charles Edward | Agri. | Voc. | Corvallis |
| Jenner, George Kenwood | Agri. | Fr. | Corvallis |
| Jennings, Charles Ross | Com. | Soph. | Cherrydale |
| Jennings, Evangeline | H.E. | Jr. | Salem |
| Jennings, Helen Margaret | Com. | Fr. | Portland |
| Jennings, Ivan Kenneth | Agri. | Voc. | Salem |
| Jennings, Richard | M.E. | Soph. | Portland |
| Jensen, Lola | Com. | Fr. | Vale |
| Jensen, Martha Irene | H.E. | Fr. | Walla Walla, Wash. |
| Jensen, Noel Cecil | Agri. | Jr. | Corvallis |
| Jensen, Willard Roe | M.E. | Soph. | Corvallis |
| Jeppesen, Einer Juhl | Phar. | Soph. | Bacona |
| Jeppesen, John | Agri. | Sr. | Bacona |
| Jerauld, Henry Franklin | C.E. | Soph. | Sacramento, Cal. |
| Jernstedt, Leonard R. | Agri. | Sr. | Carlton |
| Jessen, Ralph Frank | Agri. | Sr. | Piedmont |
| Jessup, Oliver Clinton | Com. | Fr. | Portland |
| Jewel, Mary Lois | H.E. | Fr. | Laclede, Idaho |
| Johnson, Arthur Emanuel | Agri. | Soph. | Corvallis |
| Johnson, August Raymond | Agri. | Voc. | Corvallis |
| Johnson, Charles Fred | Com. | Soph. | Hood River |
| Johnson, Cornelia C. | H.E. | Jr. | Heppner |
| Johnson, Dwight Reed | M.E. | Fr. | Portland |
| Johnson, Edith Adeline | Com. | Fr. | Marshfield |
| Johnson, Edwin Sidney | Agri. | Spec. | Portland |
| Johnson, Ellen Otten | H.E. | Sr. | Portland |
| Johnson, Elmer Carl | E.E. | Soph. | Portland |
| Johnson, Elmer John M. | M.E. | Soph. | Marshfield |
| Johnson, Estelle M. | Com. | Fr. | Eugene |
| Johnson, Farris | Agri. | Fr. | Wenatchee, Wash. |
| Johnson, Frances Irene | Com. | Jr. | Portland |
| Johnson, Franklin Whitcomb | C.E. | Spec. | Portland |
| Johnson, Frithjof Louis | Phar. | Fr. | White Salmon, Wash. |
| Johnson, Gladys Viola | H.E. | Sr. | Scappoose |
| Johnson, Hadden Lawrence | Phar. | Soph. | Boring |
| Johnson, Harold William | I.A. | Soph. | Mulino |
| Johnson, Hazel Alice | H.E. | Soph. | McMinnville |
| Johnson, Helen Augusta | Com. | Soph. | Portland |
| Johnson, Helen Margaret | Com. | Fr. | Portland |
| Johnson, Herbert Franklin | Agri. | Fr. | Wallowa |
| Johnson, John B. | Agri. | Voc. | Vernon, Alabama |
| Johnson, John M. | M.A. | Voc. | Sweden |
| Johnson, Lester James | Agri. | Soph. | Santa Ana, Cal. |
| Johnson, Lois Gertrude | Phar. | Fr. | Boise, Idaho |
| Johnson, Lola Ernestine | H.E. | Fr. | Wallowa |
| Johnson, Lula Meloy | Com. | Sr. | Corvallis |
| Johnson, Martin Fred | M.A. | Voc. | Mulino |
| Johnson, Marvin Raymond | Phar. | Soph. | Colton |
| Johnson, Norris S. | M.A. | Voc. | Portland |
| Johnson, Orlo Orton | Com. | Soph. | Corvallis |
| Johnson, Robert Hill | Com. | Soph. | Redmond |
| Johnson, Russell Isaac | Phar. | Voc. | Rigby, Idaho |
| Johnson, R. G. Jr. | Agri. | Fr. | Fresno, Cal. |
| Johnson, Thelma Jean | H.E. | Fr. | Newport |
| Johnson, Ture Harold | M.E. | Jr. | Woodburn |
| Johnson, Victor Wm. | M.E. | Soph. | Portland |
| Johnson, Winfield Haakin | E.E. | Jr. | Linnton |
| Johnson, Clarence Edwin | For. | Fr. | Yankton |
| Johnston, John Henry | M.E. | Fr. | Klamath Falls |
| Johnston, John Irl | Agri. | Voc. | Parma, Idaho |
| Johnston, Ruth | Com. | Jr. | Corvallis |
| Jones, Carl W. | Agri. | Voc. | Brookings |
| Jones, Catherine Keys | H.E. | Fr. | Ione |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| Jones, DeWitt Clinton | For. | Soph. | Fort Wayne, Ind. |
| Jones, Floyd Clark | E.E. | Soph. | Airlie |
| Jones, Freida Beryl | Com. | Jr. | Corvallis |
| Jones, Mary Genevieve | H.E. | Sr. | Oregon City |
| Jones, George Alfred A. | Mines | Soph. | Corvallis |
| Jones, Gladys Elaine | Com. | Fr. | Newport |
| Jones, Helenann | H.E. | Fr. | Oregon City |
| Jones, Howard Gaylor | Agri. | Jr. | Albany |
| Jones, James Garrard | Agri. | Fr. | Montclair, N. J. |
| Jones, Margaret Frances | H.E. | Sr. | Corvallis |
| Jones, Reece Hamilton | Agri. | Soph. | Brooks |
| Jones, Ruth Lucile | H.E. | Soph. | Salem |
| Jones, Sidney Carroll | For. | Soph. | Chehalis, Wash. |
| Jones, Theodore Amos | E.E. | Soph. | Portland |
| Jones, William Conrad | Agri. | Sr. | Ottawa |
| Jones, William Hugh | C.E. | Jr. | Portland |
| Jones, Winnifred | H.E. | Jr. | Portland |
| Joost, George Edward | M.E. | Fr. | Portland |
| Jower, Henry W. | M.E. | Sr. | Portland |
| Joy, Marjorie Valentine | Com. | Fr. | Portland |
| Joy, Kenneth Dayton | C.E. | Jr. | Portland |
| Judge, Thomas John | Agri. | Voc. | New York, N. Y. |
| Junker, Mary Magdalin | Opt. | | Sandy |
| Jutstrom, William Harold | Agri. | Fr. | Marshfield |
| Kain, Wayne Elwyn | Com. | Soph. | Portland |
| Kammerer, Adolph Harold | M.E. | Fr. | Corvallis |
| Kammerer, Theodore Garland | M.E. | Fr. | Corvallis |
| Kane, Gardner Lewis | Agri. | Jr. | Los Angeles |
| Kaps, George Henry | Agri. | Voc. | Mason City, Iowa |
| Karn, Marion Estella | H.E. | Soph. | Parma, Idaho |
| Kasberger, Joseph Michael | Agri. | Jr. | The Dalles |
| Kast, Aseneth Rowena | H.E. | Spec. | Aberdeen, Wash. |
| Katlorefsky, Natal | M.A. | Voc. | Odessa, Russia |
| Kaye, Katherine | Phar. | Soph. | Portland |
| Kearney, James Lorenzo | E.E. | Soph. | Osage, Iowa |
| Keasey, Theodore F. | C.E. | Fr. | Corvallis |
| Keatley, Robert Leland | Agri. | Jr. | Castle Rock, Wash. |
| Keebler, Bessie Fern | H.E. | Soph. | Lebanon |
| Keene, Roy Servais | Agri. | Sr. | Salem |
| Keeney, Floyd Lester | Phar. | Jr. | Palouse, Wash. |
| Keep, Kathryn | Com. | Fr. | Washougal, Wash. |
| Keller, Ivern Lucille | Com. | Spec. | Corvallis |
| Keller, Robert John | M.E. | Soph. | Corvallis |
| Kelleway, Duane Stanley | M.E. | Soph. | Corvallis |
| Kelleway, Helen | H.E. | Jr. | Corvallis |
| Kelley, Frank Bernard | Phar. | Soph. | Cove |
| Kelley, Louis Phillip | Com. | Voc. | Freewater |
| Kelley, Vera May | H.E. | Jr. | Portland |
| Kelner, Alphonse Wolfgang | Agri. | Voc. | St. Paul, Minn. |
| Kellogg, Chandler | Com. | Jr. | Los Angeles, Cal. |
| Kellogg, Karl Francis | Agri. | Jr. | Eugene |
| Kellogg, Mark James | Agri. | Jr. | Fresno, Cal. |
| Kelly, Emmett Eugene | Com. | Voc. | Gooding, Idaho |
| Kelly, Fred | Agri. | Soph. | Portland |
| Kelly, Wilbur Clinton | For. | Soph. | Portland |
| Kelsey, Henry George | E.E. | Fr. | Hoquiam, Wash. |
| Kelso, Gordon Francis | Com. | Jr. | Junction City |
| Kem, Victor Randolph | E.E. | Fr. | Cottage Grove |
| Kennedy, David Honore | Agri. | Sr. | Portland |
| Kennedy, John June | M.E. | Fr. | Mabel |
| Kenney, Fred | Agri. | Voc. | Johnstown, Pa. |
| Kenworthy, Clifford | Agri. | Fr. | Glendale, Cal. |
| Kenyon, Edgar Clay | For. | Fr. | La Verne, Cal. |
| Kerr, Claude | For. | Jr. | Oregon City |
| Kerr, Geneive | H.E. | Sr. | Corvallis |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|-----------------------|
| Kerr, Moyt Warrior | Phar. | Soph. | Corvallis |
| Kessi, William Aaron | Agri. | Soph. | Harlan |
| Ketcham, Adah | H.E. | Fr. | Corvallis |
| Kettner, Raymond Vernon | Mines. | Fr. | Linnton |
| Keys, Malcolm Ewart | Agri. | Fr. | Richmond |
| Keys, Robert William | Agri. | Soph. | Fossil |
| Keyt, Florence Lucille | H.E. | Soph. | Perrydate |
| Kidder, Alice Katheryn | Com. | Fr. | McMinnville |
| Kidder, Russell B. | E.E. | Soph. | McMinnville |
| Kienholz, Edward Gottleib | Agri. | Fr. | Edwall, Wash. |
| Kies, Gladys Ruth | H.E. | Sr. | Vancouver, Wash. |
| Kies, Helen Louise | H.E. | Soph. | Vancouver, Wash. |
| Kiger, Martha Helen | H.E. | Fr. | Corvallis |
| Kimball, Edward Lewis | Com. | Soph. | Fall Creek |
| Kimball, Stanley M. | Mines. | Fr. | Vancouver, Wash. |
| Kimber, John Evans | Agri. | Jr. | Palo Alto, Cal. |
| Kime, Francis Willard | E.E. | Fr. | Tacoma, Wash. |
| Kimmel, Jesse Carl | Ch.E. | Soph. | Estacada |
| Kincaid, Marion George | M.E. | Soph. | Riverside, Cal. |
| Kinder, William Dale | Agri. | Jr. | Prescott, Wash. |
| King, Florence Kathleen | Com. | Jr. | Corvallis |
| King, Helen Viola | Phar. | Voc. | Burns |
| King, Owen Lester | I.A. | Spec. | Brownsville |
| Kinkade, James William | Agri. | Spec. | Corvallis |
| Kinney, Eleanor Virginia | Com. | Soph. | Vancouver, Wash. |
| Kinney, Evelyn Ramona | H.E. | Fr. | Corvallis |
| Kirk, Arthur Romine | Agri. | Jr. | Milton |
| Kirk, William Romine | Agri. | Spec. | Freewater |
| Kirkendall, William Shammo | Com. | Soph. | Wenatchee, Wash. |
| Kirkham, Arthur Robinson | Opt. | | Portland |
| Kirkpatrick, Harlan Tiller | M.E. | Soph. | Portland |
| Kirkwood, Emile Glenn | Mines. | Jr. | Salem |
| Kirkwood, Ersel Francis | M.A. | Voc. | Salem |
| Kirkwood, Olga | Com. | Fr. | Salem |
| Kittredge, Marie E. | H.E. | Fr. | Corvallis |
| Kittredge, Oscar | Agri. | Fr. | Silver Lake |
| Kizer, Marion Porter | Agri. | Soph. | Albany |
| Klages, Karl H. W. | Agri. | Sr. | Corvallis |
| Klaus, Frederick Christian | Agri. | Fr. | Salem |
| Klawish, Elsie Marie | Com. | Spec. | Sutherlin |
| Kleinau, Carl Samuel | M.E. | Sr. | Jerome, Idaho |
| Kling, Louie Paul | E.E. | Jr. | Salem |
| Klink, Chester Arthur | M.E. | Sr. | Portland |
| Kloster, Dwight Avery | Phar. | Jr. | Portland |
| Knapp, Morris Carlyle | Com. | Fr. | Enterprise |
| Knapp, Veva Ella | H.E. | Jr. | Camas |
| Knauf, James Harry | Agri. | Voc. | Silverton |
| Knauf, Milton Lester | Agri. | Fr. | Silverton |
| Knauf, William John | For. | Soph. | Lebanon |
| Knight, Carl Thomas | Agri. | Voc. | Tillamook |
| Knight, Edwin | Agri. | Soph. | San Luis Obispo, Cal. |
| Knight, Hugh McCollough | M.A. | Voc. | Washougal, Wash. |
| Knight, Maurice Ruhberg | Agri. | Sr. | Corvallis |
| Knips, Avis | H.E. | Sr. | Grants Pass |
| Knips, Clara | H.E. | Jr. | Grants Pass |
| Knoll, Paul Xenophon | Com. | Soph. | Corvallis |
| Knotts, Ethel | Com. | Jr. | Corvallis |
| Knox, Fred Milton | Agri. | Fr. | Gaston |
| Koehler, Frank Allison | C.E. | Fr. | Portland |
| Koeppen, Alfred Lyman | Phar. | Soph. | Pendleton |
| Koerber, Dorothea Margaret | H.E. | Spec. | Portland |
| Koller, Frank Oswald | For. | Sr. | Astoria |
| Konm, Alice Pearl | Com. | Soph. | Yakima, Wash. |
| Koons, Lindley Venor | Agri. | Fr. | Orland, Cal. |
| Koos, Otto Carl | Com. | Fr. | Tangent |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|---------------------|
| Koschnitzky, Walfred | Agri. | Voc. | Corvallis |
| Krauter, Florence | H.E. | Soph. | Portland |
| Krebs, Conrad Jr. | Ch.E. | Fr. | Portland |
| Krichesky, Louis | M.E. | Soph. | Portland |
| Kroeger, Arthur Fred | M.E. | Soph. | Hillsboro |
| Kropf, Fred August | Agri. | Spec. | Eatonville |
| Krueger, Hans Luie | E.E. | Soph. | Corvallis |
| Krueger, Robert Frank | E.E. | Jr. | Portland |
| Kuehn, Louis Earnest | Com. | Fr. | Portland |
| Kuehner, Richard Carl | Agri. | Jr. | Arbon, Idaho |
| Kuhn, Clara Mae | Com. | Fr. | Corvallis |
| Kyle, Robert Floyd | Com. | Sr. | Central Point |
| Lacey, Mildred Irene | H.A. | Soph. | Creswell |
| Lachele, Clarence Edward | Ch.E. | Jr. | Salem |
| Ladd, James Russell | E.E. | Jr. | Glendale |
| Ladd, Wilma Janet | H.E. | Fr. | Sutherlin |
| La Fetra, Vincent Howard | For. | Fr. | Glendora |
| Lafferty, Benjamin Sylvester | Phar. | Fr. | Kellogg, Idaho |
| Lafferty, Chrystal Genevieve | H.E. | Fr. | Marshfield |
| Laffy, Herman Ernest | Agri. | Sr. | Salem |
| Lafranchi, Alfred | Agri. | Voc. | Corvallis |
| Lagus, Ami | Agri. | Spec. | Astoria |
| Laird, Cecil Ray | E.E. | Jr. | Portland |
| Laird, Florence Mae | H.E. | Soph. | North Bend |
| Laird, George L. | C.E. | Soph. | North Bend |
| Lake, Doris Elnora | Phar. | Fr. | Portland |
| La Mar, Cleone Wilma | Com. | Soph. | Shedd |
| Lamar, Hazel Elnor | Com. | Soph. | Corvallis |
| Lamar, Walter Percival | Com. | Voc. | Portland |
| Lamb, Gladys Pearl | H.E. | Voc. | Yakima, Wash. |
| Lambert, Hazel Fern | H.E. | Soph. | Scio |
| Lamborn, John Elwood | Com. | Fr. | The Dalles |
| Lamson, Florence A. | H.E. | Fr. | Sheridan |
| Lance, Clifford S. | Agri. | Fr. | Pasadena, Cal. |
| Lance, Forrest Bryson | E.E. | Soph. | Corvallis |
| Lance, Harold Lester | Phar. | Soph. | Corvallis |
| Lance, John Harland | Com. | Jr. | Corvallis |
| Landes, Clarence Harvey | E.E. | Fr. | Mossy Rock, Wash. |
| Lane, Aeneas Dennis | E.E. | Soph. | Brownsville |
| Lane, Bernice | Com. | Sr. | Corvallis |
| Lane, Harold Dement | Com. | Fr. | Clatskanie |
| Lang, Stanley B. | Com. | Voc. | Portland |
| Lange, Otto Norman | M.A. | Voc. | Scappoose |
| Langton, Pamela Alberta | Com. | Soph. | Newberg |
| Langton, Theodore James | M.E. | Jr. | Newberg |
| Lantz, Lourin Grant | M.E. | Soph. | Cove |
| Lapitzky, Ivan Leonty | M.A. | Voc. | Russia |
| Lappin, Ruth Viola | Phar. | Fr. | Council, Idaho |
| Lark, Andrew | M.E. | Spec. | Sweden |
| Larkins, Glenn Monroe | M.A. | Voc. | Mulino |
| Larsen, Edwin E. | Com. | Soph. | Suver |
| Larsen, Edward Louis | Com. | Jr. | Clatskanie |
| Larsen, James Carl | E.E. | Sr. | Suver |
| Larson, Clarence Elmer | Agri. | Sr. | Long Beach, Cal. |
| Larson, Dewey Bernard | Mines | Jr. | Corvallis |
| Larson, Harold | M.A. | Voc. | Astoria |
| Larson, Melvin L. | C.E. | Jr. | La Grande |
| Lasher, Frank Wesley | E.E. | Soph. | Puyallup, Wash. |
| Lasselle, Florence | H.E. | Soph. | Portland |
| Latimer, John Wallace | Com. | Fr. | Amity |
| Lauder, Milton Knox | M.A. | Voc. | Tacoma, Wash. |
| Law, Mary Ellen | Com. | Fr. | Corvallis |
| Law, Willis Dawson | Com. | Spec. | Corvallis |
| Lawler, Edwin John | Com. | Fr. | Raymond, Wash. |
| Lawson, James Elisha | Com. | Fr. | McMinnville |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|---------------------|
| Layman, John Harold | Com. | Soph. | Portland |
| Layton, Clorin J. | Com. | Jr. | Rathdrum, Idaho |
| Layton, Ruth | Opt. | | Corvallis |
| Leadbetter, Henry Louis P. | For. | Voc. | Portland |
| Leake, Allen R. | Agri. | Fr. | Walla Walla, Wash. |
| Leaverton, Joseph Carl | Agri. | Fr. | Portland |
| Lechner, Erwin Albert | M.E. | Soph. | Cathlamet |
| Lee, Gertrude Alice | H.E. | Fr. | Tacoma, Wash. |
| Lee, Henry Clifford | Agri. | Voc. | Eugene |
| Lee, Josephine Alice | H.E. | Fr. | Albany |
| Lee, Norman Russell | Agri. | Voc. | Echo |
| Leech, Sara Olive | H.E. | Soph. | Los Angeles, Cal. |
| Leep, Robert Wallace | C.E. | Fr. | Halfway |
| Leever, Dale Vivian | Agri. | Fr. | Corvallis |
| Legge, Roy W. | M.E. | Soph. | Gosport, Ind. |
| Lehman, Olive Henrietta | H.E. | Soph. | Portland |
| Leland, Nelson Luther | Com. | Soph. | Corvallis |
| Lemon, Margaret | Com. | Fr. | Garfield, Wash. |
| Lentz, Andrew William | M.A. | Voc. | Pablo, Mont. |
| Lentz, Bertram Franklin | E.E. | Fr. | Baker |
| Leo, Harold Raymond | Agri. | Jr. | Portland |
| Leonard, Charles Harrington | Ch.E. | Soph. | Winlock, Wash. |
| Leonard, Willard | M.A. | Voc. | Corvallis |
| Lettenmaier, Henry George | Agri. | Voc. | Southwick, Idaho |
| Le Vee, Glenn Llewellyn | E.E. | Fr. | Springfield |
| Lewis, Garfield Orr | Agri. | Sr. | Portland |
| Lewis, Howard Phelps | Ch.E. | Fr. | Marshfield |
| Lewis, Marquis D. | Agri. | Voc. | Hodgens, Okla. |
| Lewis, Mary Adele | H.E. | Sr. | Corvallis |
| Lewis, Ronald Edward | Phar. | Spec. | McMinnville |
| Lewis, Wade Vernon | Mines. | Jr. | Corvallis |
| Lewis, Webb Irene | H.E. | Fr. | Rickreall |
| Leyman, Nellie Gorton | Opt. | | Portland |
| Lichthorn, Albert Curtis | E.E. | Fr. | Estacada |
| Liddell, Wingham J. H. | M.E. | Soph. | Corvallis |
| Lienkaemper, Gertrude | H.E. | Sr. | Tillamook |
| Lilly, Clifford N. | Agri. | Spec. | Dixonville |
| Lind, Laurie Paul | Phar. | Jr. | Portland |
| Lindberg, Christian L. | C.E. | Soph. | Woodburn |
| Lindley, Susue L. | H.E. | Fr. | Portland |
| Lindquist, Bruce Charles | Agri. | Voc. | Powell Butte |
| Lindsay, Eulalia O. | H.E. | Sr. | Salem |
| Lindsay, Gordon C. | E.E. | Fr. | Corvallis |
| Lindsley, Arthur Ray | E.E. | Fr. | Oregon City |
| Lindstrom, Gert | Com. | Voc. | Sweden |
| Line, Elsie | Phar. | Spec. | Beaverton |
| Lines, Rachel Elizabeth | H.E. | Fr. | Corvallis |
| Lingham, Charles Allan | Agri. | Spec. | Lockport, N. Y. |
| Link, Chester Forest | Agri. | Spec. | Gable |
| Link, Magdalen Agnes | H.E. | Spec. | Los Angeles, Cal. |
| Lindquist, Hilda Irene | Com. | Soph. | Cathlamet, Wash. |
| Lint, Roy B. | Com. | Soph. | Weiser, Idaho |
| Linton, Frank Cornelius | Mines. | Jr. | Corvallis |
| Linton, George E. | C.E. | Soph. | Corvallis |
| Little, Gordon | E.E. | Soph. | Albany |
| Littlejohn, Harry Ivan | Agri. | Voc. | Medford |
| Littlejohns, Gertrude Louise | Com. | Soph. | Corvallis |
| Littlejohns, Harlan Edward | Com. | Fr. | Corvallis |
| Livengood, Helen | H.E. | Soph. | Albany |
| Livingston, Robert Stimpson | Agri. | Fr. | Oxnard, Cal. |
| Llabres, Manuel | Agri. | Soph. | Philippine Islands |
| Locey, Percy Phillip | Com. | Fr. | Weiser, Idaho |
| Lockwood, Chauncey Adair | E.E. | Soph. | Salem |
| Lodell, Carl Allen | Com. | Sr. | Portland |
| Loffler, Frederick William | Agri. | Voc. | Portland |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------------|-------------------|-------------|---------------------|
| Lofts, Lillian Mary | Com. | Fr. | Hood River |
| Logan, Lucille Mary | Com. | Soph. | Brogan |
| Logan, Emerson Edward | Com. | Spec. | Corvallis |
| Long, Allen Leslie | Com. | Spec. | Riverside, Cal. |
| Long, Charles Kay | I.A. | Fr. | Zamora, Cal. |
| Long, Hervey Croxton | Mines. | Jr. | Portland |
| Long, Lucile Townsend | Opt. | | Columbus, Ohio |
| Long, Spencer William | Agri. | Voc. | Scio |
| Loop, Joe | Com. | Fr. | McMinnville |
| Loucks, Paul William | Agri. | Jr. | Brownsville |
| Loughary, Lucile | H.E. | Fr. | Dallas |
| Loughrey, Ettley E. | Ch.E. | Jr. | Corvallis |
| Loughrey, Roy M. | Com. | Fr. | Payette, Idaho |
| Lounsbery, Frances Lavina | H.E. | Soph. | Portland |
| Love, Mildred | Com. | Fr. | Corvallis |
| Lovegren, Calvert A. | M.A. | Voc. | Portland |
| Lovegren, Wilfred David | For. | Soph. | Cherry Grove |
| Lovely, Christy D. | Com. | Fr. | Portland |
| Lovett, Thomas Charman | M.E. | Jr. | West Linn |
| Low, Charles Ross | Mines. | Soph. | Vancouver, Wash. |
| Lowe, Alexander Hewett | C.E. | Soph. | Portland |
| Loy, Alfred Walter | Agri. | Sr. | Buena Vista |
| Loy, Gilbert Frank | Agri. | Jr. | Buena Vista |
| Lucas, Clifford Allen | I.A. | Fr. | Corvallis |
| Lucas, William F. | Mines. | Jr. | Parkplace |
| Luch, Anna Luise | H.E. | Jr. | Vancouver, Wash. |
| Luebke, Benjamin Harrison | Agri. | Soph. | Corvallis |
| Luebke, George | L.E. | Sr. | Corvallis |
| Luebke, William M. | Com. | Sr. | Corvallis |
| Lugnet, Verner | Ch.E. | Soph. | Astoria |
| Lunt, Herbert Arthur | Agri. | Soph. | Corvallis |
| Luper, Delmer Roland | Opt. | | Tangent |
| Lusch, Roy Herbert | Com. | Spec. | Portland |
| Lutz, Alice Ermina | Com. | Fr. | Newberg |
| Lyman, Elwood Watson | Com. | Fr. | La Grande |
| Lunch, Frank | Com. | Soph. | Aumsville |
| Lynch, Harry | E.E. | Sr. | Salem |
| Lynch, John Jacob | Com. | Soph. | Aumsville |
| Lyne, Phyllis Ellen | H.E. | Soph. | Creston |
| McAllister, Cecil J. | For. | Spec. | Portland |
| McAllister, Lee | C.E. | Spec. | Salem |
| McAlonon, John Alexander | Agri. | Fr. | Santa Monica, Cal. |
| McBride, Clarendon C. | Agri. | Soph. | Eddyville |
| McBride, Roland Anthony | Phar. | Soph. | Portland |
| McBurney, Ross Robert | Com. | Spec. | Gaston |
| McCain, Cecil Wayne | Com. | Soph. | Caldwell, Idaho |
| McCain, Ernest Vivian | Com. | Sr. | Corvallis |
| McCain, Isla Marie | Com. | Sr. | Corvallis |
| McCain, Thomas Jefferson | Phar. | Ir. | Corvallis |
| McCallon, Ernest Clinton | Com. | Fr. | Dallas |
| McCart, Marion | Agri. | Sr. | McMinnville |
| McCarty, Walter Taylor | Com. | Soph. | San Diego, Cal. |
| McCaw, Bessie Constance | H.E. | Sr. | Prescott, Wash. |
| McCaw, Dwight Lyman | Agri. | Fr. | Prescott, Wash. |
| McCaw, Ruth Ida | H.E. | Sr. | Prescott, Wash. |
| McClain, Ravenda Ladd | Agri. | Fr. | Riverside, Cal. |
| McCord, Neale Bennett | Agri. | Voc. | Seattle, Wash. |
| McCorkindale, John William | Agri. | Spec. | Ontario, Cal. |
| McCormack, Mrs. Bertha K. | Com. | Sr. | Roseburg |
| McCormack, Raymond E. | Agri. | Sr. | Roseburg |
| McCormack, William U'Ren | Agri. | Soph. | Deschutes |
| McCormack, Agnes Mary | Opt. | | Klamath Falls |
| McCormack, Herman | Agri. | Spec. | Klamath Agency |
| McCoy, Maud Margaret | Com. | Fr. | Salem |
| McCroskey, Fern Elva | H.E. | Jr. | Pomona, Cal. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|----------------------|
| McCune, Kenneth | Agri. | Soph. | Shedd |
| McDaniel, Vern E. | For. | Fr. | Dayton |
| McDonald, George Krohn | Agri. | Jr. | La Grande |
| McDonald, Jessie | Com. | Fr. | Portland |
| McDonald, John Allister | Agri. | Fr. | Nyassa |
| McDonald, May Evangeline | H.E. | Soph. | Dallas |
| McDonald, Ted Joseph | Com. | Spec. | Portland |
| McDonald, Zonnie | Com. | Fr. | Roseburg |
| McDowell, Dorothy Evelyn | Com. | Jr. | Redmond |
| McDowell, Lena Belle | H.E. | Soph. | Portland |
| McEachern, Robert Bruce | M.E. | Spec. | Redmond |
| McEwen, Annie Catherine | Opt. | | Milton |
| McEwen, Robert Vernon | Agri. | Sr. | Milton |
| McFadden, Murius | Com. | Soph. | Corvallis |
| McFaddin, Clarence | Com. | Fr. | Santa Ana, Cal. |
| McFadden, Mary | H.E. | Fr. | Corvallis |
| McFarland, James Helms | Mines | Sr. | Grants Pass |
| McFaul, Mary Elizabeth | H.E. | Spec. | Portland |
| McGee, James Henry | Com. | Fr. | Pasadena |
| McGee, Leonard Lacey | M.E. | Soph. | Corvallis |
| McGilchrist, Hazel | Com. | Sr. | Salem |
| McGinnis, Edward Charles | Com. | Spec. | Twin Falls, Idaho |
| McGonigle, Asa Chauncey | Agri. | Voc. | Auburn, Wash. |
| McGreal, Allegra | H.E. | Fr. | Portland |
| McGuire, Charles Edward | Com. | Voc. | Astoria |
| McGuire, Marjorie | H.E. | Spec. | Portland |
| McIntyre, Helen | Com. | Fr. | Weiser, Idaho |
| McKay, John Lewis | Agri. | Voc. | Anacortes, Wash. |
| McKee, Floyd B. | Agri. | Sp. | Woodburn |
| McKellips, Herold | E.E. | Fr. | Everett, Wash. |
| McKendree, Scott W. | Agri. | Fr. | Klamath Falls |
| McKenna, Harold Joseph | E.E. | Soph. | Anaconda, Mont. |
| McKenna, Hugh Frances | Com. | Soph. | Portland |
| McKern, Vida Mae | H.E. | Fr. | Milton |
| McKillop, Neta | Com. | Jr. | Portland |
| McKillop, Vaughn Archibald | Com. | Voc. | Portland |
| McKinney, Curtis Charles | C.E. | Jr. | Portland |
| McKinney, Rollo James | C.E. | Soph. | Independence |
| McKinney, Vida Mae | H.E. | Jr. | Eugene |
| McKinney, Virgil | M.E. | Fr. | Corvallis |
| McKinney, Walter Verne | Com. | Soph. | Hillsboro |
| McKissick, Howard Frank | Agri. | Fr. | Reno, Nevada |
| McKnight, Matilda | H.E. | Voc. | Portland |
| McLagen, Eva | H.E. | Sr. | Tangent |
| McLaughlin, Joseph Robert | M.E. | Jr. | Portland |
| McLean, Allen Clark | Agri. | Jr. | Pendleton |
| McLeod, Henrietta | Com. | Soph. | Coquille |
| McLernon, John Mark | Agri. | Soph. | Portland |
| McMaster, Robert George | Com. | Voc. | Corvallis |
| McMindes, Elvin Winfield | Agri. | Spec. | Milwaukee, Wis. |
| McMullen, Thomas Fleessner | M.E. | Fr. | Portland |
| McMurren, Leslie | Com. | Soph. | Ontario |
| McNamee, George Paul | M.E. | Jr. | Beaverton |
| McNeely, Robert Emmett | Agri. | Soph. | Bend |
| McNeil, Donald John | M.E. | Jr. | Portland |
| McNulty, Luther | C.E. | Soph. | Oregon City |
| McPherson, Anna Lavilla | H.E. | Fr. | Portland |
| McPherson, Walter Jay | M.E. | Spec. | Forest Grove |
| McVey, Albert Vernon | M.E. | Soph. | Musselshell, Mont. |
| Maberly, Grace Madeline | Com. | Jr. | Corvallis |
| Maberly, Sarah Alice | H.E. | Soph. | Corvallis |
| Maberly, Thomas Edward | Agri. | Jr. | Corvallis |
| McCracken, Chester | Ch.E. | Soph. | Ashland |
| MacDonald, Olive | H.E. | Jr. | Seattle, Wash. |
| MacIntyre, Catherine Lois | Com. | Fr. | Sedro-Woolley, Wash. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|----------------------|
| MacIntyre, Marjorie Evelyn | Com. | Jr. | Sedro-Woolley, Wash. |
| Mack, Earl W. | Agri. | Soph. | Klamath Falls |
| Maclean, Constance | Opt. | | Portland |
| Maclean, Pauline | H.E. | Jr. | Portland |
| MacNichol, Gladys Ethel | Opt. | | Jacksonville, Fla. |
| MacNiven, Jennie Bell | H.E. | Fr. | Portland |
| MacPherson, Donald Frederick | Agri. | Jr. | Pasadena, Cal. |
| MacTaggart, Harold Lachlan | Ch.E. | Fr. | Hoquiam, Wash. |
| Madden, Eldon Leslie | Com. | Fr. | Ontario |
| Madriaga, Candido Selga | Agri. | Fr. | Philippine Islands |
| Madsen, Alvin Hjalmar | Agri. | Sr. | Silverton |
| Madsen, Victor Severin | Agri. | Fr. | Silverton |
| Magee, Mary | H.E. | Soph. | McMinnville |
| Magers, Carrie Edna | Com. | Soph. | Salem |
| MaGill, Paul La Frone | Ch.E. | Fr. | Nampa, Idaho |
| Maginnis, Agnes | Com. | Soph. | Marshfield |
| Magnuson, Elsie Ann | Com. | Fr. | Everett, Wash. |
| Magnuson, Roy William | Agri. | Soph. | Everett, Wash. |
| Magnuss, Virginia Byrd | H.E. | Sr. | Amity |
| Mahan, Susie Gertrude | Com. | Sr. | Baker |
| Mahany, Forrest Charles | M.E. | Fr. | Hood River |
| Mahon, James Lake | C.E. | Sr. | Hillsboro |
| Malcolm, Harriett Marion | Com. | Fr. | Portland |
| Malmin, Martin Edward | Com. | Jr. | St. Helens |
| Malone, Earl Nicholas | Agri. | Sr. | Castle Rock, Wash. |
| Mandley, Wilfred James | E.E. | Fr. | Chelan Falls, Wash. |
| Manion, Neva Elizabeth | Com. | Fr. | Newberg |
| Manker, Hubert Lytle | Agri. | Spec. | Upland, Cal. |
| Manning, James Brownslow | E.E. | Soph. | McMinnville |
| Manning, John Grant | Phar. | Sr. | McMinnville |
| Manning, Paul Clyde | Agri. | Voc. | Seattle, Wash. |
| Markham, Fred Orval | M.E. | Fr. | Freewater |
| Markle, Lorain R. | Agri. | Spec. | Corvallis |
| Marks, Roland Foster | Phar. | Fr. | Halsey |
| Marr, David R. | Com. | Jr. | Dundee |
| Marr, Uel Barton | M.E. | Soph. | Dundee |
| Mars, Lewis Donald | C.E. | Sr. | Jefferson |
| March, Raymond Henry | Agri. | Fr. | Hemet, Cal. |
| Marsh, Harold Berton | Agri. | Soph. | Tumalo |
| Marshall, Katherine | Com. | Fr. | Gervais |
| Marsters, Vivian Bertha | H.E. | Soph. | Salem |
| Martens, Henry A. | Mines | Soph. | Chinook, Mont. |
| Martin, Doris Katherine | Com. | Spec. | Milwaukie |
| Martin, Elizabeth | H.E. | Spec. | Stanfield |
| Martin, Estella Lucille | H.E. | Fr. | Portland |
| Martin, Francis Gordon | Com. | Fr. | Spokane, Wash. |
| Martin, Glen Roy | Agri. | Sr. | McMinnville |
| Martin, Hazel Drusilla | H.E. | Fr. | Boise, Idaho |
| Martin, Hubert Barnard | M.A. | Voc. | Portland |
| Martin, Lois Maebel | H.E. | Sr. | McMinnville |
| Martin, Louise | Com. | Spec. | Fargo, N. Dakota |
| Martinez, Jose B. | Agri. | Fr. | Berkeley, Cal. |
| Marvin, James Perry | M.E. | Fr. | Amity |
| Marvin, Jennie Margaret | H.E. | Soph. | Amity |
| Mason, Genevieve Brady | Com. | Soph. | Portland |
| Mason, Martha Ann | H.E. | Fr. | Jefferson |
| Mason, Ruth Irene | Com. | Soph. | Junction City |
| Mason, Thomas Floyd | Agri. | Soph. | Hood River |
| Mast, Carlton Eugene | Com. | Fr. | Pomeroy, Wash. |
| Masterson, John Patrick | Com. | Sr. | Port Orford |
| Mathes, Clarence Le Roy | Agri. | Soph. | Portland |
| Mathisen, William Milton | Agri. | Sr. | Montpelier, Idaho |
| Matthes, William Ernest | M.E. | Jr. | Bellingham |
| Matten, Alta Elizabeth | H.E. | Sr. | Salem |
| Matthews, Gayle | Com. | Fr. | Bozeman, Mont. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|---------------------|
| Mattley, Helen Gail | H.E. | Jr. | Oregon City |
| Matz, Harry | M.A. | Voc. | Portland |
| Maurer, Riley James | Agri. | Spec. | White Salmon, Wash. |
| Maxwell, Grace E. | Com. | Sr. | Weiser, Idaho |
| Maxwell, Marion Leslie | M.E. | Fr. | Tangent |
| Maxwell, William David | Agri. | Spec. | Baker |
| May, Edward Everett | Phar. | Fr. | Spray |
| May, Wallace Leon | Agri. | Soph. | Moro |
| Means, Milo T. | Agri. | Jr. | Philomath |
| Medley, James William | For. | Sr. | Oakland |
| Meedel, George William | E.E. | Fr. | Carlton |
| Meeker, Allen Raleigh | Agri. | Soph. | Sparks, Nevada |
| Mainig, Alfred Richard | E.E. | Fr. | Sandy |
| Mainig, Gertrude Louise | Com. | Fr. | Sandy |
| Melis, Percy Edgar | For. | Soph. | Mist |
| Meloy, Kathleen O. | Com. | Sr. | Corvallis |
| Mende, Herman William | Agri. | Jr. | Hood River |
| Mendenhall, Frank Barton | For. | Soph. | Sutherlin |
| Mendoza, Jose Miguel | Agri. | Sr. | Philippine Islands |
| Mentzer, Alta Belle | H.E. | Sr. | Corvallis |
| Mercer, Robert Allen | E.E. | Fr. | Gresham |
| Mercer, Robert Hugh | Mines | Soph. | Cooston |
| Meredith, Jeannette | Com. | Fr. | Salem |
| Merklin, Chester Phillip | Com. | Soph. | Walla Walla, Wash. |
| Merrill, Samuel | Agri. | Fr. | Pasadena, Cal. |
| Merritt, William Andrew | E.E. | Jr. | Milwaukie |
| Merritt, Edna May | Opt. | | Merrill |
| Merryfield, Fred | C.E. | Spec. | London, Eng. |
| Meserve, Helen Shirlee | H.E. | Soph. | Yankton |
| Meserve, Imogene | H.E. | Fr. | Grays River, Wash. |
| Meserve, Kenneth Almer | Agri. | Fr. | Yankton |
| Messer, Lyndell Ruth | Com. | Soph. | Aberdeen, Wash. |
| Metzker, John Kenneth | M.A. | Voc. | La Review |
| Metzger, Richard Pratt | M.A. | Voc. | Tacoma, Wash. |
| Meyer, Sylvester E. | I.A. | Soph. | Snohomish, Wash. |
| Meyerhoeffer, Virginia | Com. | Jr. | Portland |
| Meyers, Dorothy | H.E. | Soph. | La Grande |
| Michael, John Joseph | E.E. | Spec. | Pendleton |
| Michel, Marguerite B. | Com. | Jr. | Gresham |
| Michelbrook, Herbert Stephen | Agri. | Jr. | Walla Walla, Wash. |
| Mickelwait, Dean Woods | Agri. | Soph. | Twin Falls, Idaho |
| Miksch, George Lloud | E.E. | Fr. | Portland |
| Miles, Anna Afton | H.E. | Jr. | Salem |
| Miles, Leonard E. | M.E. | Soph. | Mapleton |
| Miley, Julian Joseph | Agri. | Fr. | Fresno, Cal. |
| Miller, Bayard Arthur | Com. | Fr. | Gresham |
| Miller, Cecil Harold | Agri. | Sr. | Phoenix, Ariz. |
| Miller, Clay Carl | Agri. | Soph. | Corvallis |
| Miller, Curtis Ira | Com. | Sr. | Union |
| Miller, Edward Elmer | Agri. | Voc. | Woodburn |
| Miller, Everett | Com. | Fr. | Long Beach, Cal. |
| Miller, Florence Katherine | Opt. | | Portland |
| Miller, Gladys Grace | H.E. | Jr. | Portland |
| Miller, Glenn Leon | C.E. | Fr. | Turner |
| Miller, Harry Castleman | Phar. | Soph. | Independence |
| Miller, Harry Dale | Agri. | Spec. | Corvallis |
| Miller, Herman Newton | E.E. | Soph. | Scappoose |
| Miller, Homer DeWitt | Agri. | Jr. | Corvallis |
| Miller, Horace Norman | E.E. | Soph. | Scappoose |
| Miller, Hutoka Mae | H.E. | Jr. | Medford |
| Miller, Erwin Riner | Com. | Soph. | Portland |
| Miller, Jean C. | Agri. | Voc. | Glencoe, Ill. |
| Miller, Jerome Everett | I.A. | Soph. | Portland |
| Miller, John C. | M.A. | Voc. | Brownsville |
| Miller, John Roswell | Agri. | Voc. | Drain |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-------------------------------------|-------------------|-------------|---------------------|
| Miller, Levi Abner | Agri. | Voc. | Hubbard |
| Miller, Lloyd C. | M.E. | Sr. | Portland |
| Miller, Marion Louise | H.E. | Soph. | Salem |
| Miller, Mary Maxine | H.E. | Jr. | Corvallis |
| Miller, Milton Marion | Agri. | Jr. | Corvallis |
| Miller, Murray Raymond | E.E. | Soph. | Clackamas |
| Miller, Palmer | Ch. E. | Fr. | Portland |
| Miller, Pierre Alphonse | Agri. | Fr. | Portland |
| Miller, Ralph Waldo | I.A. | Spec. | Corvallis |
| Miller, Thelma Jean | H.E. | Fr. | Portland |
| Miller, Wilma Daphne | H.E. | Soph. | Macleay |
| Miller, Wyna L. | Opt. | | Glencoe, Ill. |
| Miller, Zella Rae | Com. | Fr. | Garfield, Wash. |
| Milligan, Moy Riley | I.A. | Fr. | Rialto, Cal. |
| Milliorn, Josie | Com. | Fr. | Eugene |
| Mills, Camilla | H.E. | Sr. | Forest Grove |
| Mills, Ruth Loraine | Phar. | Soph. | Monroe |
| Milne, Donald Lawson | E.E. | Spec. | Seattle, Wash. |
| Minkler, Lee Darrell | Com. | Soph. | Medford |
| Minsinger, David William | C.E. | Spec. | Portland |
| Minsinger, Mrs. Julia Hedlund | H.E. | Jr. | Corvallis |
| Minton, Leslie Arza | Agri. | Voc. | Mosier |
| Minty, George Ray | Agri. | Voc. | The Dalles |
| Misner, Barney Grandison | Agri. | Voc. | Centralia, Wash. |
| Misz, Donald Francis | E.E. | Soph. | Portland |
| Mitchell, Edgar Malcolm | E.E. | Fr. | Sandy |
| Mitchell, Geo. Adamson | Agri. | Sr. | Corvallis |
| Mitchell, Harry Earl | M.A. | Voc. | Sandy |
| Mitchell, Lewis Edwin | Agri. | Fr. | Colusa, Cal. |
| Mize, Katie Olive | H.E. | Sr. | Salem |
| Moad, Marshall Dump | Agri. | Voc. | Newberg |
| Modiesti, Benjamin | Agri. | Fr. | Los Angeles, Cal. |
| Moe, Frances | H.E. | Spec. | Hood River |
| Moe, Mark Enos | Com. | Soph. | Hood River |
| Moffett, Lloyd Tevis | Agri. | Voc. | St. Louis, Mo. |
| Mohney, Curtis Gillam | Mines. | Jr. | Salem |
| Mohney, William D. | Com. | Jr. | Salem |
| Mohr, Hazel Margaret | H.E. | Spec. | La Grande |
| Mombert, James H. | Agri. | Voc. | Mills City |
| Monjay, William Oden | Com. | Fr. | Corvallis |
| Monosmith, Maurice Glenn | E.E. | Soph. | Albany |
| Monroe, Marion Parker | Com. | Fr. | Portland |
| Monteith, Merwin Addison | M.E. | Fr. | Boise, Idaho |
| Montgomery, Clarence Vaughan | Com. | Fr. | Klamath Falls |
| Montgomery, Glenn Wm. | Agri. | Voc. | Goldendale, Wash. |
| Montgomery, Loyd Byron | Com. | Soph. | Pendleton |
| Moody, Catherine Gladys | H.E. | Spec. | Buena Park, Cal. |
| Moody, Kelly Bowman | Agri. | Voc. | Eugene |
| Moody, Mary Alice | H.E. | Soph. | Los Angeles, Cal. |
| Moomaw, Harold Amos | M.E. | Fr. | Hubbard |
| Moon, Harry Walter | Phar. | Soph. | La Grande |
| Mooney, Thomas Francis | Agri. | Voc. | Clackamas |
| Moore, Chester Ervin | M.A. | Voc. | Bend |
| Moore, Ernest Fay | Agri. | Voc. | Turner |
| Moore, Eugene Hiram | Agri. | Spec. | Rogue River |
| Moore, Helen A. | Com. | Jr. | Salem |
| Moore, Lester Vernon | E.E. | Fr. | Harrington, Wash. |
| Moore, Merville Wilfred | E.E. | Jr. | Condon |
| Moore, Myrton Miles | C.E. | Soph. | Portland |
| Moore, Neva L. | Com. | Sr. | Corvallis |
| Moore, Olive Elizabeth | Com. | Fr. | Portland |
| Moran, James Christopher | C.E. | Soph. | Portland |
| Morback, Edna Jane | H.E. | Spec. | Sherwood |
| Moreland, Heber Myron | Agri. | Jr. | Portland |
| Moreland, Helen Margaret | H.E. | Sr. | Portland |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------------|-------------------|-------------|---------------------|
| Morgan, Beulah M. | Com. | Soph. | Glendale |
| Morgan, Exie Xanthus | Agri. | Soph. | The Dalles |
| Morgan, Gilbert Davis | For. | Soph. | Milwaukie |
| Morgan, Harrison T. | Agri. | Voc. | Ashland |
| Morgan, Homer Orcutt | Agri. | Fr. | Carlton |
| Morris, Alfred Ivon | M.A. | Voc. | Oregon City |
| Morris, Erwin William | M.A. | Voc. | Oregon City |
| Morrissey, Frances Clare | Opt. | | Portland |
| Morrison, Margarette McCalmont | H.E. | Fr. | Arlington |
| Morse, Donald Wesley | Com. | Sr. | Seattle, Wash |
| Morse, Leander Charles | M.E. | Soph. | Berkeley, Cal. |
| Morton, Frank Leslie | Com. | Fr. | White Salmon, Wash. |
| Moser, Dorothy Adelia | H.E. | Soph. | Portland |
| Moser, Anna Matilda | H.E. | Soph. | Myrtle Creek |
| Moser, Fred Frank | Agri. | Soph. | Gravel Ford |
| Moss, Bernice Ruth | H.E. | Fr. | Hood River |
| Moss, Lloyd Arthur | Agri. | Sr. | Hood River |
| Moulton, Rose Anna | Com. | Soph. | Nampa, Idaho |
| Moyer, Mary Elizabeth | Com. | Fr. | Corvallis |
| Mueller, Helen Margaret | Com. | Soph. | Vale |
| Mueller, Vina Eleanor | Phar. | Fr. | Vale |
| Muhr, Carl C. | Agri. | Fr. | Warren |
| Mulkey, Lawrence Ivan | For. | Soph. | Corvallis |
| Mulkey, Meral J. | H. E. | Soph. | Mehama |
| Mulkey, Wendell T. | M.E. | Fr. | Vale |
| Mullenhoff, Rudolf Ernest Julius | Agri. | Voc. | Boring |
| Mulligan, William Patrick | Agri. | Voc. | Seattle, Wash. |
| Munger, William Ned | Agri. | Fr. | Portland |
| Munson, Fred Onel | Com. | Spec. | Portland |
| Muntzel, Albert Quincy | Com. | Voc. | Portland |
| Murray, Agnes Thomson | Com. | Fr. | Corvallis |
| Murray, Albert Samuel | E.E. | Sr. | Boise, Idaho |
| Murray, Byron Albert | Phar. | Soph. | Falls City |
| Murray, Gladys Lockie | H.E. | Jr. | Boise, Idaho |
| Murray, Nettie Lorene | Opt. | | Falls City |
| Murray, Willette B. | Agri. | Sr. | Grants Pass |
| Murton, Jack Hatfield | E.E. | Soph. | Portland |
| Mushrush, Floyd Milton | Mines | Sr. | Pasadena, Cal. |
| Myers, Allen | Com. | Voc. | Portland |
| Myers, Buenta | H.E. | Sr. | Clay Center, Kan. |
| Myers, Geo. Edward | M.E. | Soph. | Corvallis |
| Myers, Harry Lord | Agri. | Spec. | Eugene |
| Myers, Henry Glyson | M.E. | Fr. | Portland |
| Myers, James Elton | C.E. | Fr. | Oregon City |
| Myers, Paul Browning | Agri. | Voc. | Springfield |
| Nalbach, Stephen N. | Com. | Soph. | Moweaqua, Ill. |
| Napper, John Fred | M.A. | Voc. | Creswell |
| Nash, Alda Ruth | H.E. | Spec. | Newberg |
| Nash, Doris Elizabeth | H.E. | Voc. | Milwaukie |
| Neabeack, Benjamin Harrison | Agri. | Voc. | The Dalles |
| Neal, Gladys Olive | Opt. | | Gresham |
| Neal, Jesse Alva | M.A. | Spec. | Marion |
| Neary, Alice Frances | Com. | Fr. | Neilton, Wash. |
| Neeb, Jennings Bryan | Ch.E. | Soph. | Ontario |
| Neely, William Jennings | Ch.E. | Soph. | Oregon City |
| Neer, Thomas Earl | Agri. | Voc. | Turner |
| Neil, George Carlton | M.A. | Spec. | Oak Harbor, Wash. |
| Nelson, Alfie Adelene | H.E. | Fr. | Portland |
| Nelson, Bernice Irene | H.E. | Jr. | Corvallis |
| Nelson, Charles Harold | Agri. | Fr. | Mount Vernon, Wash. |
| Nelson, Eiven | E.E. | Soph. | Bellingham, Wash. |
| Nelson, Florence Louise | Com. | Fr. | Portland |
| Nelson, George Lester | C.E. | Soph. | Glendale |
| Nelson, Grant Harris | Agri. | Voc. | Worden |
| Nelson, Herbert | Agri. | Sr. | Mt. Vernon, Wash. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-------------------------------|-------------------|-------------|---------------------|
| Nelson, Lewis Halvor | Agri. | Voc. | Umapine |
| Nelson, Phyllis Esther | H.E. | Fr. | Moscow, Idaho |
| Nesbit, Dorothy Virginia | Com. | Fr. | Astoria |
| Nettleton, Harry Ira | For. | Sr. | La Porte, Colo. |
| Neuman, Joseph John | Agri. | Voc. | Philomath |
| Ness, Ruth Laura | Com. | Soph. | Portland |
| Newell, Lila Elsie | H.E. | Voc. | Sitka, Alaska |
| Newhouse, Carla Marghretta | H.E. | Jr. | The Dalles |
| Newhouse, Sewell Omer | C.E. | Jr. | Springbrook |
| Newman, Paul Clinton | Agri. | Jr. | Corvallis |
| Newmyer, William Roy | Agri. | Soph. | Chemawa |
| Newport, Mary Louise | Com. | Fr. | Lebanon |
| Newton, Ernest Edward | M.A. | Voc. | Etna Mills, Cal. |
| Nicholl, Albert Thomas | Agri. | Voc. | Corvallis |
| Nichols, John Ralph | Agri. | Jr. | Palo Alto, Cal. |
| Nichols, Madison | C.E. | Jr. | Salem |
| Nicholson, Frances Bell | H.E. | Soph. | Medford |
| Nicholson, Ruth Elizabeth | Com. | Soph. | Hood River |
| Nicolson, William Ronald | Phar. | Soph. | Marshfield |
| Nick, Jerome T. | Agri. | Agri. | Los Angeles, Cal. |
| Nicol, James Douglas | Agri. | Fr. | Hillsdale |
| Niles, Florence Evelyn | H.E. | Jr. | Eugene |
| Niles, Marjorie Helen | H.E. | Fr. | Grants Pass |
| Niles, Wallace Ellsworth | Agri. | Sr. | Grants Pass |
| Nixon, Richard Alexander | Agri. | Fr. | Oregon City |
| Nixon, Rollin Sebastian | Agri. | Fr. | Deer Creek, Ill. |
| Noonan, Norman Alred | Agri. | Jr. | Los Angeles, Cal. |
| Noonan, Val Edwin | Agri. | Jr. | Los Angeles, Cal. |
| Nordgren, Lilly Magnhild Elsa | Com. | Fr. | Aberdeen, Wash. |
| Nordling, Gill | Com. | Soph. | Colton |
| Nordling, Oscar Philemon | C.E. | Soph. | Colton |
| Norene, Jennie Theresa | Com. | Soph. | Bend |
| Norris, Robert Kearney | Agri. | Soph. | Burlington, Wash. |
| Norris, Ross | Agri. | Fr. | Medford |
| North, William Edward | Agri. | Fr. | Clatskanie |
| Norwood, Helen Elizabeth | H.E. | Spec. | Seattle, Wash. |
| Note, Rex Joshua | Agri. | Spec. | Jerome, Idaho |
| Novinger, Fred B. | Agri. | Fr. | Long Beach, Cal. |
| Nusbaum, Betty Evelyn | H.E. | Soph. | Portland |
| Nutting, Bernard Lee | For. | Soph. | Brookings |
| Nye, Stephen Gundlach | Com. | Jr. | Medford |
| Oatfield, Beatrice Joyce | H.E. | Fr. | Skamokawa, Wash. |
| Oatfield, Ernest William | Com. | Voc. | Portland |
| Ober, Blythe Henry | C.E. | Soph. | Portland |
| Ober, Theodore Marion | Mines | Fr. | Portland |
| Obra, Casimero Calica | Phar. | Fr. | Tarlac, P. I. |
| O'Brien, Joseph Vincent | Agri. | Voc. | Victor, Mont. |
| Oderkirk, Burton S. | Agri. | Spec. | Fargo, N. D. |
| Odum, Henry Carson | C.E. | Fr. | Dallas |
| Oerding, William Arthur | Com. | Fr. | Coquille |
| Offield, Lester Clifford | Com. | Soph. | Merri l |
| Ogden, Helen Nancy Elizabeth | H.E. | Soph. | Portland |
| Ohm, John Charles | Mines | Fr. | Portland |
| Olmsted, Mary A. | Com. | Jr. | Forest Grove |
| Olsen, Aleen Kathryn | Com. | Voc. | Corvallis |
| Olsen, Chas. Albert | M.A. | Voc. | Portland |
| Olsen, Herbert Julius | Agri. | Soph. | Goleta, Cal. |
| Olsen, Roy Arthur | M.A. | Voc. | Portland |
| Olson, Marmie Edwin | Agri. | Voc. | Medford |
| Olson, Charlotte Dagmar | H.E. | Spec. | North Powder |
| Olson, Elmer Sylvester | Agri. | Voc. | Salem |
| Olson, Harold Raymond | E.E. | Soph. | Woodburn |
| Olson, Helen Josephine | Com. | Fr. | Portland |
| Olson, Royal Clarence | E.E. | Fr. | Silverton |
| Olson, Walter Daniel | E.E. | Jr. | Portland |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|----------------------|
| Olson, William | Agri. | Soph. | Seaside |
| O'Neill, Elsie Maude | Com. | Fr. | Vaie |
| Onkka, Saima Elizabeth | Com. | Soph. | Astoria |
| Onsdorff, Chas. Thomas | Agri. | Jr. | Battle Ground, Wash. |
| Orkrey, Roydon Woolston | Com. | Fr. | Hoquiam, Wash. |
| O'Rourke, Edgar M. | Com. | Jr. | Corvallis |
| O'Rourke, Roscoe Newton | Agri. | Soph. | Portland |
| Orr, George David | Agri. | Sr. | Randle, Wash. |
| O'Ryan, James William | Agri. | Voc. | Enterprise |
| Osborn, Fred Percy | Agri. | Soph. | Corvallis |
| Osborne, Gifford Lawson | For. | Jr. | Aurora |
| Ostien, Thomas Lee | Mines | Sr. | Monmouth |
| Ostrom, John Clarence | Agri. | Soph. | Waterman, Wash. |
| Ostrum, Alaila Mary | H.E. | Fr. | Portland |
| Ostrum, Richard Jacob | M.E. | Jr. | Portland |
| Ottka, Harry | Com. | Voc. | Kamela |
| Ottoman, Frank | Com. | Voc. | Malin |
| Ouderkirk, Earle Cecil | Agri. | Voc. | Goble |
| Owens, Elizabeth | H.E. | Fr. | Raymond, Wash. |
| Owens, Lillian W. | H.E. | Fr. | Medford |
| Owens, Thomas Siler | For. | Jr. | Raymond, Wash. |
| Owens, William Osborne | For. | Jr. | Raymond, Wash. |
| Owsley, Alfred Thomas | Com. | Jr. | La Grande |
| Pace, Franklin Dewey | E.E. | Soph. | Corvallis |
| Packard, Otto Bernard | Ch. Eng. | Jr. | Santa Ana, Cal. |
| Paddack, Earl William | C.E. | Soph. | Oregon City |
| Paddock, Harvey Levi | Agri. | Soph. | Eugene |
| Page, Chester Leroy | E.E. | Jr. | Eddyville |
| Page, Walter Sinclair | M.A. | Voc. | Leeds, N. D. |
| Paine, Roscoe Benjamin | Agri. | Fr. | Pasadena, Cal. |
| Painton, Helen Mordorette | H.E. | Jr. | Rockaway |
| Palfrey, Mary Hazen | H.E. | Fr. | Molalla |
| Palmateer, Oral Edwin | M.A. | Voc. | Silverton |
| Palmer, Claude Funston | Com. | Jr. | Corvallis |
| Palmer, Dean Fullerton | Agri. | Soph. | Upland, Cal. |
| Palmer, Earl | Agri. | Voc. | Pendleton |
| Palmer, Lowell Elbert | Com. | Sr. | Jordan Valley |
| Pankonin, Arthur Frederick | M.A. | Voc. | The Dalles |
| Pardee, Marvin Irving | Com. | Jr. | Corvallis |
| Pardue, Robert Marvin | Agri. | Voc. | Yocum |
| Park, Gerald J. | M.E. | Soph. | Oregon City |
| Parker, Chas. Henry | I.A. | Soph. | Sutherlin |
| Parker, Helen Armstrong | H.E. | Soph. | Portland |
| Parker, Helen Fisk | Com. | Fr. | Portland |
| Parker, Ivan Walter | Com. | Spec. | Mt. Vernon, Wash. |
| Parker, James Roland | Agri. | Jr. | Medford |
| Parker, Leonard Clifton | E.E. | Soph. | Portland |
| Parker, Ralph Walton | E.E. | Fr. | Forest Grove |
| Parker, Stella Frances | H.E. | Soph. | Myrtle Point |
| Parkinson, Robert Lee | Com. | Soph. | Portland |
| Parnin, Viron Raymond | Agri. | Fr. | Alhambra, Cal. |
| Parsons, Alfred Bishop | Agri. | Fr. | Bernardino, Cal. |
| Parsons, Cyril Malcolm | Hi.E. | Jr. | Bonanza |
| Parsons, Walton Winfield | Phar. | Sr. | Sherwood |
| Paschelke, Arthur | E.E. | Fr. | Marcola |
| Patchett, Walter Cecil | Agri. | Jr. | Corvallis |
| Patchin, Alonzo William | Agri. | Soph. | Salem |
| Patchin, Julia Harriett | H.E. | Jr. | Salem |
| Patchin, Nellie E. | H.E. | Jr. | Salem |
| Paterson, Dan McColl | Com. | Jr. | Portland |
| Patrick, Donald | Com. | Soph. | Corvallis |
| Patrick, Roy Lavelle | E.E. | Fr. | Roseburg |
| Patterson, Harold Parsons | M.E. | Fr. | Canyon City |
| Patterson, Vincent Millar | Agri. | Jr. | Eugene |
| Pattin, Ruth Louise | H.E. | Jr. | Klamath Falls |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| Pattison, Frank Stewart | Agri. | Voc. | Eugene |
| Patton, Lyman William | Agri. | Soph. | Corvallis |
| Patty, Florence Valeria | H.E. | Sr. | Amity |
| Patty, Frank Alexander | Agri. | Soph. | La Grande |
| Pauling, Linus Carl | Ch.E. | Jr. | Portland |
| Paulson, Amanda Sylena | Com. | Jr. | Corvallis |
| Paulson, Anna Josephine | H.E. | Jr. | Corvallis |
| Paulson, Edla Josephine | H.E. | Soph. | Portland |
| Paulson, Reinhold M. L. | Agri. | Voc. | Corvallis |
| Payne, George Franklin | Agri. | Jr. | Corvallis |
| Payne, Lois Marguerite | H.E. | Jr. | Northfield, Minn. |
| Payne, William Fulwar | Agri. | Jr. | Corvallis |
| Payton, Wesley Eugene | Agri. | Soph. | Baker |
| Peak, Joseph Warren | Com. | Fr. | Gresham |
| Pearce, Harold Edgar | C.E. | Soph. | Seattle, Wash. |
| Pearce, Walter T. | Com. | Fr. | Seattle, Wash. |
| Pearson, Edna J. | H.E. | Jr. | Portland |
| Peattie, Mary Christina | H.E. | Soph. | Portland |
| Peavy, Bradley Adelbert | For. | Jr. | Corvallis |
| Peavy, George Darwin | For. | Jr. | Corvallis |
| Peil, Fay Elizabeth | H.E. | Fr. | Corvallis |
| Peirce, Howard Maxwell | Agri. | Fr. | Portland |
| Pemberton, Robert Barkley | C.E. | Soph. | Whittier, Calif. |
| Pentzer, Wilbur Tibbils | Agri. | Soph. | Pasadena, Calif. |
| Perkins, Arthur Berkette | Agri. | Soph. | Santa Ana, Calif. |
| Pernot, Aimee Lucie | H.E. | Soph. | Portland |
| Perry, Frances Elizabeth | Com. | Fr. | Medford |
| Perry, Glen Edwin | Agri. | Fr. | Corvallis |
| Perry, Harry Maynard | Agri. | Fr. | Corvallis |
| Perry, Jesse Lee | C.E. | Sr. | Portland |
| Perry, Kenneth Sterling | C.E. | Soph. | Klamath Falls |
| Perry, Margaret Alice | H.E. | Jr. | San Dimas, Calif. |
| Perry, William McGuire | Agri. | Jr. | Houlton |
| Petersen, Ella | H.E. | Soph. | Junction City |
| Petersen, Samuel Nansen | Agri. | Soph. | McMinnville |
| Petersen, David Conrad | Com. | Soph. | Gresham |
| Peterson, Alton Leroy | Com. | Soph. | Culbertson, Mont. |
| Peterson, Emil Ralph | Agri. | Sr. | North Bend |
| Peterson, Esther Helen | H.E. | Soph. | Portland |
| Peterson, Geo. Frederick | Com. | Voc. | Yakima, Wash. |
| Peterson, Harold | For. | Fr. | Portland |
| Peterson, John Hilmar | C.E. | Soph. | Knappa |
| Peterson, Nettie Lucile | H.E. | Sr. | Ontario |
| Peterson, Otto William | Com. | Voc. | Yakima, Wash. |
| Peterson, Wallace Elmer | M.E. | Soph. | Anaconda, Mont. |
| Peterson, William Raymond | Agri. | Voc. | Ashland |
| Petite, Palmer Henry | M.E. | Soph. | Heisson, Wash. |
| Pettinger, Lois Hudson | H.E. | Soph. | Oswego |
| Pettingill, Geo. Freeman | Ch.E. | Jr. | Newberg |
| Pettersen, Aage Emil | Agri. | Spec. | Horsens, Denmark |
| Pettis, Marshall Geo. | C.E. | Fr. | Portland |
| Petty, Ercel Earl | Com. | Voc. | McMinnville |
| Peugh, Verne Leon | C.E. | Soph. | Wasco |
| Pfeiffer, Chas. Frank | M.E. | Jr. | Albany |
| Phelps, Ernest | M.A. | Voc. | Corvallis |
| Philbrick, Lewis S. | Agri. | Soph. | Camas, Wash. |
| Philbrook, Helen Teresa | H.E. | Fr. | Chehalis, Wash. |
| Phillips, Allie | Com. | Spec. | Cottage Grove |
| Phillips, Frank Lester | Agri. | Voc. | Chehalis, Wash. |
| Phillips, Harrison Nye | Com. | Fr. | Mehama |
| Phillips, James Robert | Agri. | Jr. | Corvallis |
| Phillips, Kenneth | C.E. | Jr. | Albany |
| Phillips, Ruth Dinsmore | H.E. | Fr. | Corvallis |
| Phillips, Sylvia Elizabeth | Com. | Fr. | Corvallis |
| Philpott, William Henry | E.E. | Fr. | Prosper |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|----------------------|
| Piatt, William Paul | Agri. | Voc. | Junction City, Kans. |
| Pickle, Walter Ray | Agri. | Voc. | Everett, Wash. |
| Pickard, Archie Niel | I.A. | Spec. | Corvallis |
| Pickering, Ellwood Ellis | Agri. | Fr. | Los Angeles, Calif. |
| Pickett, Bruce Franklin | Com. | Soph. | Gold Hill |
| Pierce, Archie Carlton | Agri. | Voc. | Medford |
| Pierce, Lucille | H.E. | Sr. | La Grande |
| Pietro, Paul B. | Agri. | Voc. | Stayton |
| Pietzker, Henry Fred | E.E. | Sr. | Portland |
| Pine, William Douglas | Agri. | Sr. | Berkeley, Calif. |
| Pinkerton, Harry S. | Com. | Jr. | Corvallis |
| Pinkston, Clarence E. | Com. | Soph. | San Diego, Calif. |
| Playle, Audmer Roy | Com. | Soph. | La Grande |
| Plog, Edna Louise | H.E. | Soph. | Hood River |
| Plummer, Roger Sherman | Agri. | Spec. | Portland |
| Plunkett, James Albert | M.A. | Voc. | Corvallis |
| Poling, Harold Wayne | Ch.E. | Jr. | Albany |
| Poole, George | Agri. | Fr. | Portland |
| Poole, Kenneth Clifford | Agri. | Soph. | Portland |
| Poole, Leslie Erving | M.E. | Jr. | Hillsboro |
| Poole, Orell Allard | E.E. | Soph. | Wallowa |
| Pooler, Leone Elda | H.E. | Spec. | Corvallis |
| Pope, Ethel Mildred | H.E. | Jr. | Billings, Mont. |
| Popham, Benj. Ehlinger | M.E. | Soph. | Portland |
| Porter, Dorothy Mae | H.E. | Voc. | Portland |
| Porter, Francis Alonzo | Phar. | Spec. | Forest Grove |
| Porter, James Larson | Phar. | Soph. | Ashland |
| Porter, Leonard Moody | M.A. | Voc. | Salem |
| Porter, Mildred | Com. | Jr. | Corvallis |
| Porter, Perry Nathan | Agri. | Voc. | Salem |
| Porter, Stephen Daniel | Agri. | Voc. | Sheridan |
| Porterfield, Walter Lowrie | Agri. | Fr. | Long Beach, Calif. |
| Pound, John Cyril | E.E. | Fr. | Canyon City |
| Powell, Clement James | Com. | Soph. | Portland |
| Powell, DeWitt Elvin | Mines | Jr. | Orland, Calif. |
| Powell, George Arthur | Com. | Sr. | Portland |
| Powell, Hal Wolverton | Agri. | Fr. | Highland, Calif. |
| Powell, Norval H. | Agri. | Jr. | Cottage Grove |
| Powell, Raymond Arthur | Com. | Soph. | Portland |
| Powell, Virgil Aifred | C.E. | Soph. | Cottage Grove |
| Powell, William Douglas | Com. | Soph. | Portland |
| Powers, Albert Henry | E.E. | Fr. | Corvallis |
| Powne, Norman | E.E. | Jr. | Banks |
| Prael, Albert Herman | M.E. | Soph. | Astoria |
| Prather, Mildred Esther | H.E. | Jr. | Corvallis |
| Pratt, Mrs. Frankie Beatrice | Com. | Spec. | Wichita, Kans. |
| Presley, Albert C. | Agri. | Jr. | Newport |
| Presnall, Clifford Charles | Agri. | Jr. | Lebanon |
| Prest, Lesa Winifred | Opt. | — | Chinook, Wash. |
| Prest, Loretta Ellen | Com. | Fr. | Chinook, Wash. |
| Preston, Lenore Elsie | H.E. | Fr. | Dallas |
| Price, F. Earl | Agri. | Jr. | Lemon Cove, Calif. |
| Price, Gladys Beatrice | H.E. | Jr. | Oakland |
| Price, Raymond Eugene | Com. | Sr. | Corvallis |
| Price, Watts Willard | C.E. | Jr. | Scappoose |
| Price, Edward Theodore | Agri. | Fr. | Portland |
| Prindle, Vera Elmina | Com. | Fr. | Corvallis |
| Pringle, Lester Clarence | E.E. | Fr. | Everett, Wash. |
| Pritchard, Ourray Clifton | M.A. | Spec. | Portland |
| Pritchett, Jesse Hobson | E.E. | Spec. | Carlton |
| Prouty, Charles Clarence | Agri. | Soph. | Weiser, Idaho |
| Pryse, E. Morgan | For. | Sr. | Corvallis |
| Pubols, Frieda Martha | Com. | Fr. | Hillsboro |
| Pubols, John | Agri. | Voc. | Hillsboro |
| Pugh, Kenneth Leslie | Agri. | Voc. | Raymond, Wash. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|----------------------|
| Purdy, Ann Hope | H.E. | Spec. | Corvallis |
| Purvine, Laurence | M.E. | Soph. | Salem |
| Putnam, Nana Wait | Com. | Soph. | Salem |
| Pyfer, Frederick Fourth | Agri. | Voc. | Corvallis |
| Pykonen, Martin Tom | Agri. | Voc. | Oak Point, Wash. |
| Quackenbush, Roy M. | M.E. | Sr. | Portland |
| Quarton, Thomas Irving | Ch.E. | Soph. | Anaheim, Calif. |
| Quayle, Harold Myron | E.E. | Fr. | Portland |
| Quimby, Ethel Annette | H.E. | Sr. | Halsey |
| Quiner, John Hill | Mines | Soph. | Eugene |
| Rabeck, Hala Genevieve | H.E. | Fr. | Olympia, Wash. |
| Radcliff, Edward Everett | Agri. | Jr. | Burbank, Calif. |
| Radovich, Nikolas | Agri. | Fr. | Kolasin, Montenegro |
| Ragenovich, Louis Brooks | Com. | Fr. | Yale, Wash. |
| Ragle, Herbert Underwood | M.E. | Fr. | Woodlake, Calif. |
| Ragsdale, Evelyn Ruth | H.E. | Fr. | Moro |
| Rahn, Fred William | Com. | Jr. | Corvallis |
| Ralston, William John | Phar. | Soph. | Corvallis |
| Ramsay, Glenn Turner | Agri. | Fr. | Portland |
| Ramsey, George Gerald | Mines | Fr. | Portland |
| Ramsey, William Elmer | M.E. | Jr. | Portland |
| Rand, Dewey | C.E. | Fr. | Portland |
| Rand, Dorothy | Opt. | — | Hood River |
| Randall, Clinton Ray | M.A. | Voc. | Newberg |
| Rands, Clarence Ray | Com. | Fr. | Corvallis |
| Rands, Harry Allen | Com. | Soph. | Corvallis |
| Rands, William John | Com. | Fr. | Corvallis |
| Rankin, Charles Spafford | M.E. | Fr. | Portland |
| Rankin, Gray Sanford | Ch.E. | Fr. | Albany |
| Rankin, William John | Agri. | Spec. | Boise, Idaho |
| Rasmussen, Malcolm Salisbury | Com. | Fr. | Portland |
| Rau, Jacob | Phar. | Fr. | Portland |
| Rauch, Edward Nelson | Com. | Jr. | Tacoma, Wash. |
| Rawlings, Oliver Clark | Com. | Fr. | Corvallis |
| Rawlings, Ruth Elizabeth | H.E. | Jr. | Albany |
| Ray, Guy | Agri. | Spec. | St. Paul |
| Read, Clifford Webster | Mines | Soph. | Portland |
| Read, Farra Leroy | Phar. | Jr. | Corvallis |
| Readen, Edna Hortense | H.E. | Soph. | Portland |
| Readen, Erma Rowena | H.E. | Jr. | Portland |
| Readen, Harold Walton | Com. | Jr. | Portland |
| Ready, Stanton George | Opt. | — | Cascade, Idaho |
| Reagan, Charles H. | M.A. | Voc. | Bend |
| Records, Warren Willis | Agri. | Sr. | Walla Walla, Wash. |
| Rector, Lewis Edwin | Agri. | Fr. | Seattle, Wash. |
| Redford, Homer Dwight | E.E. | Fr. | Eugene |
| Redden, Cecil Vernon | Com. | Spec. | Vancouver, Wash. |
| Redman, Jacob Arthur | C.E. | Fr. | Portland |
| Redman, James | Mines | Fr. | Portland |
| Reed, Clifford Henry | E.E. | Fr. | Corbett |
| Reed, Mrs. Maggie Bowman | H.E. | Spec. | Palm Springs, Calif. |
| Reed, Milton | Agri. | Fr. | Edison, Wash. |
| Reed, Rena Henrietta | H.E. | Fr. | Palm Springs, Calif. |
| Reed, Russell Oakley | E.E. | Soph. | Estacada |
| Reeder, Bertha Marie | H.E. | Fr. | Calistaga, Calif. |
| Reeder, Zilda Luella | Com. | Voc. | Corvallis |
| Reeher, Howard Allen | Com. | Fr. | Portland |
| Rees, Eileen Agnes | Opt. | — | New Pine Creek |
| Rees, Helen J. | H.E. | Jr. | Marshfield |
| Reese, Charles Alonzo | Agri. | Fr. | San Jose, Calif. |
| Reese, Clyde Russell | Agri. | Voc. | San Jose, Calif. |
| Reeves, Carroll Francis | M.E. | Jr. | Hillsdale |
| Reeves, Russell | Agri. | Fr. | Albany |
| Reeves, William Houston | Agri. | Voc. | Long Beach, Calif. |
| Rehn, Henry J. | Com. | Fr. | Ritzville, Wash. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|-----------------------|
| Reid, Anna Frances | H.E. | Soph. | Portland |
| Reid, Ralph | Ch.E. | Sr. | Warrendale |
| Reider, Mary Helen | H.E. | Soph. | Rivera, Calif. |
| Reiman, Alma Emma | Com. | Soph. | St. Maries, Idaho |
| Reiman, Erwin Carl | Agri. | Jr. | St. Maries, Idaho |
| Reimann, Elmer Ellsworth | Agri. | Voc. | St. Maries, Idaho |
| Reinemund, Byron Russell | Agri. | Fr. | San Diego, Calif. |
| Reinhard, Carl Buffunn | Agri. | Voc. | Corvallis |
| Reinke, Irwin George | Com. | Fr. | Portland |
| Reith, Helen F. | H.E. | Soph. | Astoria |
| Reitsma, Earl | Agri. | Spec. | Corvallis |
| Renner, Kenneth Arden | M.E. | Fr. | Oregon City |
| Resing, J. Lucille | Phar. | Sr. | Portland |
| Reynolds, Harold Arthur | Agri. | Spec. | Independence |
| Reynolds, Joe | Agri. | Sr. | La Grande |
| Reynolds, Lloyd Jay | For. | Fr. | Portland |
| Reynolds, Loren F. | I.A. | Jr. | Corvallis |
| Reynolds, Travis Fenton | I.A. | Soph. | Dallas |
| Rhoades, Marian | Com. | Voc. | Portland |
| Rhoads, Robena Beulah | H.E. | Soph. | Portland |
| Rice, Beatrice | Com. | Sr. | Myrtle Creek |
| Rice, Lory Earl | Agri. | Soph. | Eagle, Idaho |
| Rice, Mrs. Mary Angeline | H.E. | Voc. | Sacramento, Calif. |
| Rice, Otterbein Henry | Agri. | Voc. | Gooding, Idaho |
| Rice, Philip Richard | Agri. | Soph. | Corvallis |
| Rich, Vida Nell | Com. | Jr. | Seward, Alaska |
| Rich, Walter Barton | E.E. | Fr. | Portland |
| Richards, Charles Claude | Agri. | Voc. | Cambridge, Idaho |
| Richards, Helen Pansy | H.E. | Voc. | Rickreall |
| Richards, Lyle R. | Com. | Fr. | Orange, Calif. |
| Richardson, Adelaide Junior | H.E. | Fr. | Portland |
| Richardson, Cyril Vernon | Com. | Jr. | Corvallis |
| Richardson, John Marvin | Com. | Soph. | Portland |
| Richardson, Paul Kress | Mines | Jr. | Salem |
| Richardson, Winford Epley | E.E. | Fr. | Corvallis |
| Richert, Ralph James | Agri. | Soph. | Pacific Beach, Calif. |
| Riches, Harry La Bare | Agri. | Spec. | Silverton |
| Richmond, Nell Heloise | H.E. | Soph. | Portland |
| Richter, Sara Jane | H.E. | Voc. | Portland |
| Richard, John Thurston | Agri. | Soph. | Corvallis |
| Rickard, Margaret Laura | Phar. | Soph. | Corvallis |
| Rickson, Carl A. | For. | Jr. | Portland |
| Rickter, Oscar | Agri. | Spec. | Rio Dell, Calif. |
| Riddle, Julius | E.E. | Sr. | Roseburg |
| Ridenour, Elinor | Opt. | — | Corvallis |
| Ridings, Winifred | Com. | Fr. | Philomath |
| Riggs, Leib | Phar. | Jr. | Corvallis |
| Riippa, Wainard | Mines | Sr. | Astoria |
| Rinearson, Leonard Everett | C.E. | Soph. | Milwaukie |
| Rioth, Homer J. | M.A. | Voc. | Roseburg |
| Rising, Louis Wait | Ch.E. | Soph. | Irrigon |
| Risley, Ralph Winston | Agri. | Fr. | Milwaukie |
| Rissberger, John Matthias | E.E. | Fr. | Oregon City |
| Ritchie, Horace Bradford | Phar. | Soph. | Portland |
| Ritner, Ford Conklin | E.E. | Fr. | Corvallis |
| Ritter, Herman Mathias | Agri. | Jr. | Pasadena, Calif. |
| Ritter, Viola Margaret | H.E. | Spec. | Pasadena, Cal. |
| Robbins, Duane Hardie | Com. | Soph. | Molalla |
| Robbins, Esther Isabelle | H.E. | Soph. | McMinnville |
| Roberts, Emery Douglas | C.E. | Spec. | Corvallis |
| Roberts, Grace Phyllis | Com. | Fr. | Medford |
| Roberts, Homer Lee | Com. | Soph. | Corvallis |
| Roberts, Irving Clifford | E.E. | Jr. | Salem |
| Robertson, Alfred Crawford | Ch.E. | Jr. | Portland |
| Robertson, Irwin Justice | E.E. | Soph. | Turner |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|--------------------------|
| Robins, William N. | Com. | Fr. | Lebanon |
| Robinson, Arthur Ralph | C.E. | Fr. | Portland |
| Robinson, Burton Kenson | Com. | Soph. | Grants Pass |
| Robinson, Edwin Emerson | M.E. | Spec. | Wilderville |
| Robinson, Elise Daphne | Opt. | — | Cambridge, Idaho |
| Robinson, Frank Richard | Mines | Jr. | Portland |
| Robinson, Harold Baldwin | Com. | Sr. | Forest Grove |
| Robinson, Irene | H.E. | Sr. | Forest Grove |
| Robinson, Jennings Bryson | Agri. | Voc. | Corvallis |
| Robinson, Paul Evans | E.E. | Soph. | Mapleton |
| Robinson, Richard Wesley | M.E. | Spec. | Wilderville |
| Robison, Edna Aletha | H.E. | Jr. | Coquille |
| Robison, Manley Frank | M.A. | Voc. | Junction City |
| Robson, Ella Dunlap | H.E. | Soph. | Corvallis |
| Roche, Chester | Agri. | Sr. | Corvallis |
| Rockwood, Eunice G. | H.E. | Fr. | Roswell, Idaho |
| Rogers, Dick | M.E. | Jr. | Bandon |
| Rodgers, Ethel Fern | H.E. | Soph. | Woodburn |
| Redolf, Carl Francis | C.E. | Sr. | Corvallis |
| Rodolf, Helen Hope | Com. | Fr. | Corvallis |
| Roe, Lucile | Com. | Soph. | Junction City |
| Roehr, Frank George | M. E. | Jr. | Portland |
| Roether, Jackson Colbert | Com. | Fr. | El Cajon, Calif. |
| Rogers, Beulah G. | Com. | Fr. | Tillamook |
| Rogers, David | Agri. | Fr. | Salem |
| Rogers, Lavina | Com. | Sr. | Portland |
| Rogers, Lucy Elizabeth | H.E. | Sr. | Toledo |
| Rogers, Margaret | Com. | Sr. | Sacramento, Calif. |
| Rogers, Max Franklin | Com. | Soph. | Portland |
| Rollins, Francis Willard | Mines | Soph. | Hillsboro |
| Roley, Cecil Albert | E.E. | Fr. | Washougal, Wash. |
| Rollman, Lawrence Thomas | E.E. | Spec. | Olympia, Wash. |
| Romig, Orlando Elliott | Ch.E. | Jr. | Silver Lake |
| Rose, Charles Duncan | Agri. | Sr. | Corvallis |
| Rose, Evangeline A. | Com. | Fr. | Boise, Idaho |
| Rose, Merrill Dale | Com. | Soph. | Portland |
| Rosebraugh, Frank Walton | Com. | Soph. | Salem |
| Rosebraugh, Ruth Z. | H.E. | Soph. | Salem |
| Rosebraugh, William Arthur | Com. | Soph. | Salem |
| Roseman, Helen Teater | H.E. | Fr. | Dayton |
| Rosen, Morris | Ch.E. | Sr. | Los Angeles |
| Rosenboom, Gus Henry | M.E. | Spec. | Molalla |
| Rosenlof, Pearl Crystal | H.E. | Jr. | Nampa, Idaho |
| Rosenquest, Vera N. | H.E. | Jr. | Salem |
| Rosenstiel, James R. | Mines | Fr. | Redland, Alberta, Canada |
| Rosenthal, Lionel H. | C.E. | Soph. | Portland |
| Rosenstock, Susan Jane | H.E. | Soph. | Philippine Islands |
| Roser, Edgar Noell | E.E. | Jr. | Roseburg |
| Ross, Arthur H. | Agri. | Soph. | Salem |
| Ross, Catherine Wolcott | Com. | Fr. | Portland |
| Ross, Frank Arthur | C.E. | Spec. | Wheeler |
| Ross, Frank Earl | Mines | Sr. | Central Point |
| Ross, Helen Mossman | Phar. | Soph. | Portland |
| Ross, Reginald Leith | Com. | Spec. | Orchards, Wash. |
| Ross, Robert Bishop | M.E. | Soph. | Mosier |
| Rossman, Frank Emil | Agri. | Fr. | Salinas, Calif. |
| Rothschild, Mildred E. | Phar. | Soph. | Portland |
| Rotschy, Sam | For. | Fr. | Vancouver, Wash. |
| Rounds, Wallace Thornton | M.A. | Voc. | Corvallis |
| Routledge, George Hollister | Mines | Jr. | Portland |
| Rowe, John Milton | Com. | Fr. | Portland |
| Rowenhorst, Lena | Opt. | — | Orange City, Iowa |
| Ruble, Joe | Com. | Fr. | Amity |
| Ruby, Bessie | Com. | Soph. | McMinnville |
| Ruch, Lawrence Edwin | M.A. | Voc. | Applegate |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| Rudesiel, Helen Esther | Phar. | Fr. | Amity |
| Rudig, Alfred Jasper | Com. | Tr. | Mt. Vernon, Wash. |
| Ruley, Dwight S. | Agri. | Soph. | Medford |
| Runyard, Donald Austin | Com. | Soph. | Seaside |
| Runyan, Violet Ruth | Com. | Fr. | Chinook, Mont. |
| Rush, Eldon A. | Phar. | Fr. | Elgin |
| Rush, Roy Cecil | Agri. | Soph. | Tulare, Calif. |
| Rusher, Glenn Odell | I.A. | Jr. | Gresham |
| Russell, Carl | E.E. | Sr. | Sweet Home |
| Russell, Charles J. | Agri. | Sr. | Pendleton |
| Russell, Earl Everett | E.E. | Soph. | Rainier |
| Russell, Leonard C. | Phar. | Soph. | North Bend |
| Ruth, Percy Vere | Com. | Voc. | Corvallis |
| Rutherford, Gerald A. | Com. | Soph. | Portland |
| Ryan, Edward Lawrence | Com. | Fr. | Portland |
| Rycraft, Forest Vernon | Agri. | Sr. | Corvallis |
| Rydberg, Iver Louis | Agri. | Fr. | Corvallis |
| Rydell, Ethel Elizabeth | Com. | Soph. | Willamina |
| Rydell, Louis Ernest | C.E. | Jr. | Willamina |
| Ryder, Florence Esther | H.E. | Jr. | Albany |
| Sabin, Marion | H.E. | Soph. | Grants Pass |
| Sales, Dorothy Harriett | H.E. | Soph. | Petaluma, Calif. |
| Saling, Lloyd B. | Com. | Fr. | Estacada |
| Salstrom, Edward John | Ch.E. | Soph. | Portland |
| Salstrom, Joseph William | Com. | Soph. | Portland |
| Sample, Clair Russell | Agri. | Voc. | Hillsboro |
| Samuelson, Olga Alfreda | Com. | Soph. | Gladstone |
| Samuelson, Oliver Lorenzo | Agri. | Sr. | Brownsville |
| Sanborn, Lynn Durrell | Agri. | Sr. | Los Angeles, Calif. |
| Sanborn, Olive May | H.E. | Jr. | Los Angeles, Calif. |
| Sanders, Clement Marshall | M.E. | Soph. | Portland |
| Sanders, Hazel Daphne | H.E. | Soph. | Athens |
| Sandmeyer, Isabel Emma | Phar. | Fr. | Buell, Idaho |
| Sandon, Grace Rea | Com. | Jr. | Corvallis |
| Sandon, Harry George | M.E. | Jr. | Astoria |
| Sandwick, Arnold Thomas | For. | Soph. | McMinnville |
| Sandwick, Ethel Marion | H.E. | Fr. | McMinnville |
| Sapp, George Edward | Agri. | Voc. | Seattle, Wash. |
| Sarpola, Henry G. | Phar. | Soph. | Astoria |
| Saunders, Esther Blanche | Com. | Sr. | Richland |
| Saunders, Lawrence Henry | Agri. | Soph. | El Cajon, Calif. |
| Saunders, William Wilford | E.E. | Soph. | The Dalles |
| Savage, Guy Everett | M.E. | Soph. | Portland |
| Sawyer, A. Maynard | Phar. | Jr. | Amity |
| Sawyer, Maurice Fred | Agri. | Soph. | Whittier, Calif. |
| Sayer, Helen Powers | Opt. | — | Burns |
| Scea, Paul Waldie | Com. | Sr. | Milton |
| Schadd, Rudolph August | Agri. | Fr. | Newberg |
| Schad, Geary Loyd | Phar. | Fr. | Elkton |
| Schaefer, George Stephen | Agri. | Voc. | Mt. Angel |
| Scharpf, Alma Ethelyn | H.E. | Jr. | Portland |
| Scheer, Charles Henry | Agri. | Voc. | Boise, Idaho |
| Schel, Wallace Aubrey | Com. | Fr. | Salem |
| Scherer, Walter Hirschell | Ch.E. | Fr. | Corvallis |
| Schiewe, Ben Nathaniel | M.E. | Sr. | Portland |
| Schille, Anthony George | M.E. | Jr. | Portland |
| Schlegel, Paul Edwin | C.E. | Soph. | Corvallis |
| Schlehuber, John | Agri. | Voc. | Corvallis |
| Schloeman, Carl Waldo | Com. | Voc. | Roseburg |
| Schmidt, George Emile | Ch.E. | Fr. | Portland |
| Schmidt, Reinhold | M.E. | Jr. | Grants Pass |
| Schneider, Nicholas | Com. | Sr. | Portland |
| Schneiter, Caroline Bertha | Com. | Spec. | Pendleton |
| Schoenfeldt, Arthur Morris | Com. | Fr. | Portland |
| Schultz, Eva Marie | Com. | Fr. | Portland |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-------------------------------|-------------------|-------------|----------------------|
| Schultz, Everett Thomas | E.E. | Fr. | Portland |
| Schumacher, Benjamin Franklyn | Com. | Jr. | Portland |
| Schumacher, Winnie Lillian | Com. | Spec. | Heisson, Wash. |
| Schuttpelz, Adolph | Agri. | Soph. | Lakeside |
| Schwartz, Esther Dresden | Opt. | — | Corvallis |
| Scollard, Cecil Joseph | Agri. | Jr. | Woodburn |
| Scott, Bertha G. | Com. | Spec. | Walla Walla, Wash |
| Scott, Carroll E. | Agri. | Fr. | Whittier, Cal. |
| Scott, Edith Mary | H.E. | Fr. | Jordan Valley |
| Scott, Harold Martin | Agri. | Fr. | Los Angeles, Cal. |
| Scott, Herman Harvey | Agri. | Voc. | Corvallis |
| Scott, James Otis | Agri. | Fr. | Independence |
| Scott, Jennie Ritchie | H.E. | Spec. | Corvallis |
| Scott, Mary Ritchie | Agri. | Spec. | Corvallis |
| Scott, Millard Lawton | Agri. | Soph. | Whittier, Cal. |
| Scott, Walter Alvin | Agri. | Spec. | Corvallis |
| Scotton, Edwin B. | C.E. | Sr. | Portland |
| Scrimsher, Maxine Margaret | Com. | Soph. | Pendleton |
| Scroggin, LaVerne | Phar. | Soph. | Portland |
| Scroggin, Seymour Ralph | Com. | Soph. | Portland |
| Scudder, Nathan Frost | Agri. | Fr. | Los Angeles, Cal. |
| Searcy, Chester Arthur | For. | Fr. | Moro |
| Searcy, John L. | C.E. | Soph. | Moro |
| Searcy, Seral Ward | Com. | Soph. | Moro |
| Seawell, John Leonard | Agri. | Spec. | Corvallis |
| Secombe, Lyle William | C.E. | Fr. | San Bernardino, Cal. |
| Sedgwick, George Bearby | E.E. | Soph. | Creswell |
| Sedgwick, William Dunn | E.E. | Soph. | Creswell |
| Seedling, Eva | H.E. | Voc. | Sherwood |
| Seely, Claire Randolph | Com. | Sr. | Portland |
| Seibert, Elwin Dean | Opt. | — | Pendleton |
| Seidl, Albert Carl | Com. | Jr. | Troutdale |
| Seim, Roy Martin | Agri. | Soph. | Astoria |
| Sein, Walter M. | Agri. | Sr. | Corvallis |
| Seitters, Narma Ione | Com. | Fr. | McMinnville |
| Sleder, Ruth Amanda | H.E. | Soph. | The Dalles |
| Slover, Howard Pierce | Agri. | Fr. | Pasadena, Cal. |
| Sels, Stella V. | Com. | Fr. | Dayville |
| Selstrom, Ivan Frank | M.E. | Fr. | Stockett, Mont. |
| Sender, Albert Lester | Agri. | Fr. | Albany |
| Sengstacken, Doris | Com. | Soph. | Marshfield |
| Sestak, Vanda | Opt. | — | Slayton |
| Seton, Waldemar Junior | E.E. | Fr. | Portland |
| Severns, Edgar E. | Com. | Fr. | Rialto, Cal. |
| Severns, Walter Edward | E.E. | Fr. | Fortuna, Cal. |
| Sewell, Norris C. | E.E. | Fr. | Portland |
| Seymour, Elizabeth | H.E. | Jr. | Forest Grove |
| Shade, Enos Burke | Agri. | Jr. | Rivera, Cal. |
| Shanks, J. Carlton | E.E. | Soph. | Dallas |
| Shainhott, Don Holmes | Com. | Voc. | Hoquiam, Wash. |
| Shannahan, Ralph Elmo | Agri. | Sr. | Dundee |
| Shannon, Walter Franklin | Com. | Fr. | Condon |
| Sharkey, Clement John | Ch.E. | Jr. | Portland |
| Sharp, James Sim | Agri. | Voc. | Corvallis |
| Shaver, Ralph Thomas | E.E. | Soph. | Sutherlin |
| Shawe, Hamilton Bruce | Agri. | Spec. | Corvallis |
| Shay, Greta Nichols | Opt. | — | Portland |
| Shay, Roger Brainard | C.E. | Fr. | Laclede, Idaho |
| Shearer, Anna Jean | Com. | Fr. | Weiser, Idaho |
| Shearer, Madge | Com. | Fr. | Weiser, Idaho |
| Sheldon, Howard Beswick | Agri. | Fr. | Santa Paula, Cal. |
| Shellheart, Byrl Andrew | Agri. | Fr. | La Center, Wash. |
| Shelton, Alva B. | Com. | Spec. | Coquille |
| Shelton, Henry E. | Com. | Soph. | Pomeroy, Wash. |
| Shelton, Rose Irene | Com. | Fr. | Wasco |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| Shepard, Volney William | Com. | Spec. | Ritzville, Wash. |
| Shepherd, Earl X. | Com. | Fr. | Waterloo |
| Sherfy, Harold E. | Agri. | Jr. | Corvallis |
| Sherfy, Vesta Elizabeth | H.E. | Jr. | Corvallis |
| Sherrill, Clifford Milton | Com. | Fr. | Roseburg |
| Sherwin, Howard Thickstun | C.E. | Fr. | Willamina |
| Sherwood, Curtis Homer | Agri. | Fr. | Eagle Rock, Cal. |
| Shields, Alfred Eugene | Agri. | Jr. | Cape Horn, Wash. |
| Shields, Harley Rex | Phar. | Spec. | Corvallis |
| Shirk, Ada Rosalie | Com. | Fr. | Pullman, Wash. |
| Shirley, Marguerite D. | Com. | Jr. | Weiser, Idaho |
| Shoemaker, Helen Marie | H.E. | Soph. | Riverside, Cal. |
| Shonnesan, Gordon Oliver | Phar. | Fr. | Woodburn |
| Short, Grace | Phar. | Fr. | Seattle, Wash. |
| Short, James Franklin | Agri. | Spec. | Tumalo |
| Shotwell, Jesse Gordon | C.E. | Jr. | Hermiston |
| Shranger, Clyde Frank | Agri. | Fr. | Mt. Vernon, Wash. |
| Shriber, Albert Lowell | E.E. | Fr. | Philomath |
| Shriber, William Howard | E.E. | Fr. | Philomath |
| Seigmund, Floyd La Vern | M.E. | Jr. | Salem |
| Sigle, Charles Marshal | M.E. | Soph. | Portland |
| Sikes, Cyril Pierce | Com. | Soph. | Corvallis |
| Silva, George Gamboa | Agri. | Spec. | Chile, S. A. |
| Silver, Annie Amanda | Com. | Fr. | Astoria |
| Silverson, Lawrence Junnie | Agri. | Spec. | Monmouth |
| Simington, Robert M. | Ch.E. | Fr. | Portland |
| Simon, Floyd Halem | Agri. | Fr. | Albany |
| Simpson, Kirk | C.E. | Fr. | Salem |
| Simpson, Willard Dewey | C.E. | Jr. | Salem |
| Sims, Helen Alene | Com. | Fr. | La Grande |
| Sims, Lee Thomas | I.A. | Soph. | Woodburn |
| Sims, Lona | H.E. | Jr. | Corvallis |
| Sims, Mamie | H.E. | Fr. | Salem |
| Sims, Marion Frances | H.E. | Sr. | Corvallis |
| Sinclair, John Arl | For. | Voc. | Wilbur |
| Sinclair, Millard G. | Opt. | | Emmett, Idaho |
| Sink, Leota H. | H.E. | Fr. | Portland |
| Skells, George William | E.E. | Fr. | Portland |
| Skelton, Joe. T. | Hi.E. | Sr. | Corvallis |
| Skov, Maren Julia | H.E. | Sr. | Corvallis |
| Skyles, Norman Baker | E.E. | Fr. | Astoria |
| Slater, Richard Dudley | C.E. | Fr. | Salem |
| Slater, Richard Thomas | Com. | Fr. | Sutherlin |
| Slaton, Cloyd Wayne | Agri. | Soph. | Hemet, Cal. |
| Sliffe, Arthur Leon | For. | Fr. | Silverton |
| Slover, Warren Daniel | Com. | Spec. | Corvallis |
| Smith, Tyra Alexander | M.E. | Fr. | Corvallis |
| Smith, Calvin Reed | Com. | Jr. | Bend |
| Smith, Clarence Morris | Com. | Fr. | Fossil |
| Smith, Clayton Burnette | Com. | Fr. | Osage, Iowa |
| Smith, Doyle Bertis | Com. | Sr. | Salem |
| Smith, Earl Wallace | E.E. | Fr. | Halfway |
| Smith, Eric Rounthwaite | E.E. | Soph. | Portland |
| Smith, Everett Lathrop | Agri. | Sr. | Corvallis |
| Smith, Forrest Edwin | For. | Fr. | Long Beach, Cal. |
| Smith, Frank Sipple | Agri. | Soph. | Lewiston, Mont. |
| Smith, George Andrew | Agri. | Spec. | Corvallis |
| Smith, George Dewey | M.E. | Fr. | Missoula, Mont. |
| Smith, Hazel June | H.E. | Jr. | Lewiston, Mont. |
| Smith, Helen | H.E. | Soph. | Pocatello, Idaho |
| Smith, Hortense Agatha | H.E. | Fr. | Rock Island, Ill. |
| Smith, Hubert Ora | M.A. | Voc. | Corvallis |
| Smith, Isola Mae | H.E. | Voc. | Salem |
| Smith, John W. L. | Agri. | Sr. | Corvallis |
| Smith, Lawrence Howard | For. | Jr. | South Bend, Wash. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|----------------------|
| Smith, Lawrence J. | Agri. | Voc. | Goshen |
| Smith, Leslie Leeper | E.E. | Jr. | Corvallis |
| Smith, Lewis Elisha | E.E. | Jr. | Corvallis |
| Smiht, Lucy Elvera | H.E. | Fr. | Yakima, Wash. |
| Smith, Malcolm Gough | Mines | Fr. | Salem |
| Smith, Margaret Josephine | Com. | Fr. | Grants Pass |
| Smith, Maurine | Com. | Fr. | Salem |
| Smith, Milton Walters | Phar. | Spec. | Lakeview |
| Smith, Muriel Gliddon | H.E. | Soph. | Albany |
| Smith, Orville Charles | Com. | Sr. | Albany |
| Smith, Otto Theodore | C.E. | Fr. | Portland |
| Smith, Presley Hampton | Agri. | Voc. | Corvallis |
| Smith, Stanley Lewis | Agri. | Fr. | Gooding, Idaho |
| Smith, Sterling William | M.E. | Sr. | Portland |
| Smith, Thomas Hillis | Com. | Jr. | Pomona, Cal. |
| Smith, Veva Alberta | H.E. | Soph. | Salem |
| Smith, Walter Thomas | Com. | Soph. | Aurora |
| Smithers, Eric Francis | Agri. | Spec. | Maplewood, N. J. |
| Snell, Eldon Alfred | E.E. | Fr. | Albany |
| Snell, Leva Jasmine | H.E. | Fr. | Albany |
| Snider, Marie Isabelle | H.E. | Soph. | Tacoma, Wash. |
| Snidow, Harriet Vivian | Phar. | Soph. | Willamette |
| Snook, Maurice Carroll | Com. | Jr. | Madras |
| Snyder, Elizabeth | Phar. | Fr. | Corvallis |
| Snyder, Helen Maxine | Com. | Jr. | Corvallis |
| Soden, Harold Edward | Agri. | Soph. | Corvallis |
| Soden, Helen Elsmere | Com. | Fr. | Corvallis |
| Soderstrom, Clarence R. | C.E. | Soph. | Albany |
| Soliss, Albert Roland | M.A. | Voc. | Berkeley, Cal. |
| Solomon, Clare Wilson | Agri. | Spec. | Everett, Wash. |
| Somers, Eugenia Hazel | Agri. | Spec. | Corvallis |
| Sorber, David Wayne | Agri. | Voc. | Portland |
| Sorensen, Christian Jean | Mines | Jr. | Portland |
| Sorensen, Louie Christian | Com. | Spec. | Glendale, Cal. |
| Soule, Bernice Edna | H.E. | Fr. | Portland |
| Soule, Edward Ralph | Com. | Fr. | Portland |
| Spangenberg, Clara | H.E. | Voc. | Lakeview |
| Spath, Harry Edward | M.A. | Voc. | Seaside |
| Spaulding, Isla Loleta | H.E. | Jr. | Salem |
| Specht, Mabel Erian | H.E. | Sr. | Portland |
| Spencer, George Fenton | Agri. | Soph. | Portland |
| Spencer, Kyle Robert | Agri. | Fr. | Battle Ground, Wash. |
| Spencer, Mildred Jeannette | Agri. | Sr. | Seattle, Wash. |
| Spight, Lindley Hill | Agri. | Fr. | Hood River |
| Spike, Eleanor May | H.E. | Soph. | Echo |
| Spile, Frances Mirian | H.E. | Soph. | Echo |
| Spitzbart, Leo G. | Agri. | Sr. | Salem |
| Spriggs, Genevieve | Com. | Soph. | Portland |
| Spriggs, Glenn Elwyn | Com. | Sr. | Portland |
| Spring, Reuben Fred | Agri. | Soph. | Milwaukie |
| Squires, Ted A. | Agri. | Soph. | Kelso, Wash. |
| Stachniewig, Joseph | Agri. | Voc. | Portland |
| Stacy, Opal May | Com. | Soph. | Medford |
| Staley, Minnie Emma | H.E. | Fr. | Portland |
| Stamm, Robert Andrew | E.E. | Jr. | Eugene |
| Stannard, Frank M. | M.E. | Fr. | Corvallis |
| Starbuck, Vesta Irene | H.E. | Fr. | Myrtle Creek |
| Stark, Harrison Harper | Agri. | Voc. | Wenatchee, Wash. |
| Starker, Caroline Marguerite | H.E. | Jr. | Portland |
| Starkay, Edward B. | Agri. | Sr. | Prosser, Wash. |
| Starr, Eugene Carl | E.E. | Soph. | Falls City |
| Starr, Gertrude Ilona | Com. | Voc. | Yachats |
| Staten, Elliott James | Phar. | Fr. | Hood River |
| Stearns, Dave W. | M.E. | Spec. | Portland |
| Stearns, Howard Cecil | Agri. | Fr. | Portland |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-------------------------------|-------------------|-------------|---------------------|
| Stearns, Max | Agri. | Soph. | Portland |
| Stearns, Russell Millard | Phar. | Fr. | Lebanon |
| Stebbins, Roderick Ellery | Agri. | Fr. | Berkeley, Cal. |
| Steel, Joseph Irvine | For. | Jr. | Portland |
| Steele, Clarence William | M.E. | Soph. | Portland |
| Steele, Isabelle Alice | H.E. | Sr. | Portland |
| Steele, Zella Dorothy | H.E. | Soph. | Creswell |
| Steen, Ruth Gertrude | Com. | Fr. | Lewiston |
| Stein, William Frank | E.E. | Soph. | Portland |
| Stenback, Raymond Howard | Com. | Jr. | Summit |
| Stenstrom, Loyd Clifford | Mines | Soph. | Salem |
| Stephens, Anna Eileen | H.E. | Soph. | Portland |
| Stephens, Robert Vance | Agri. | Voc. | Corvallis |
| Sterling, Maude Melvena | H.E. | Fr. | Lebanon |
| Steunenberg, Ancil K. | C.E. | Fr. | Caldwell, Idaho |
| Stevenson, Harold | Phar. | Sr. | Halsey |
| Stevenson, Herbert William | For. | Soph. | Portland |
| Steward, Albert N. | Agri. | Sr. | Omak, Wash. |
| Stewart, Charles Warren | Agri. | Voc. | Portland |
| Stewart, Dora Belle | Com. | Soph. | Ablany |
| Stewart, Harold D. | M.E. | Soph. | Portland |
| Stewart, Harry James | Com. | Jr. | Portland |
| Stewart, James Ivan | Com. | Sr. | Corvallis |
| Stewart, Raymond Ernest | M.E. | Soph. | Carlton |
| Stewart, Robert Alexander | Agri. | Sr. | Portland |
| Stewart, Rollin F. | Com. | Fr. | Carlton |
| Stewart, Rudolph Jennings | E.E. | Fr. | Corvallis |
| Stillion, Ernest Merrill | Agri. | Voc. | Yakima, Wash. |
| Stillwell, Betty | Com. | Fr. | Independence |
| Stinemetz, Elmer James | Agri. | Voc. | Seattle, Wash. |
| Stinson, Richard Brodrick | Com. | Jr. | Portland |
| Stockman, Joseph Lowell | Agri. | Jr. | Pendleton |
| Stockton, Mary Edith | H.E. | Spec. | Milwaukie |
| Stoddard, Harry Charles | M.E. | Soph. | Berlingame, Cal. |
| Stokes, Lee Claude | Agri. | Voc. | Portland |
| Stone, Arthur Robert | Agri. | Voc. | Grand Haven, Mich. |
| Stone, Harold B. | E.E. | Soph. | Ashland |
| Stone, Leila Opal | Phar. | Fr. | The Dalles |
| Stone, Lenore | Com. | Fr. | Portland |
| Stone, Marshall Wedell | Agri. | Fr. | Tacoma, Wash. |
| Stoneberg, Emily | H.E. | Jr. | Eugene |
| Stover, Dorothy Irene | H.E. | Fr. | Corvallis |
| Stow, Fern Leota | H.E. | Soph. | McMinnville |
| Strahl, Newton Fenton | Com. | Sr. | Centerville, Wash. |
| Strain, Hazel Marie | H.E. | Sr. | Pendleton |
| Strand, John Arnold | Phar. | Soph. | Portland |
| Strang, Helen Marie | H.E. | Voc. | Medford |
| Strang, Herbert B. | M.A. | Voc. | Medford |
| Straub, Samuel H. | Com. | Soph. | Corvallis |
| Straughan, Mrs. Jessie May | Com. | Jr. | Lewiston, Idaho |
| Straughan, Theodore Roosevelt | E.E. | Fr. | Pendleton |
| Strauss, Jack Roman | M.A. | Voc. | Corvallis |
| Streiff, David | Com. | Soph. | Hillsboro |
| Streyffeler, Percy Lynn | C.E. | Soph. | Salem |
| Striplin, Virgil Toliver | Agri. | Spec. | Lakeview |
| Stromgren, Pearl Hannah | Com. | Fr. | Colton |
| Strong, Clarence C. | For. | Soph. | Washougal, Wash. |
| Strong, Geoffrey S. | Com. | Soph. | Myrtle Creek |
| Strong, Lloy Lorraine | E.E. | Fr. | Corvallis |
| Strong, Ralph Lee | Com. | Jr. | Portland |
| Stroud, Howard Joseph | Com. | Fr. | Mt. Vernon, Wash. |
| Strout, Edna Ethelyn | H.E. | Soph. | Amity |
| Stuart, Dolphus G. | I.A. | Spec. | Corvallis |
| Stuart, Julia Merle | H.E. | Jr. | Portland |
| Studer, George Alfred | M.E. | Soph. | Portland |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|----------------------|
| Sturgeon, Jerry Elliott | Agri. | Voc. | Corvallis |
| Stuve, Howard | Agri. | Fr. | New Plymouth, Idaho |
| Sullivan, Margaret Mary | Phar. | Jr. | Portland |
| Summers, Robert Edward | M.E. | Soph. | Portland |
| Summers, Stanley R. | Com. | Jr. | Lebanon |
| Suokko, Wainer Walfrid | Agri. | Spec. | Astoria |
| Sutherland, John Alexander | M.E. | Fr. | Portland |
| Sutton, Arlouine Clevenger | Opt. | | Corvallis |
| Sutton, George Charles | Agri. | Spec. | Corvallis |
| Svensen, Lynette Joyce | Com. | Sr. | Astoria |
| Swaggerty, James G. | M.E. | Jr. | Walla Walla, Wash. |
| Swall, Lillard Trask | I.A. | Soph. | Tulare, Cal. |
| Swan, Alexander Grant | Agri. | Sr. | San Dimas, Cal. |
| Swan, Harry Twiss | Mines | Jr. | Baker |
| Swanson, Conrad Annlem | Com. | Soph. | Stevenson, Wash. |
| Swanson, Edgar Hurst | Agri. | Soph. | Forest Grove |
| Swarm, Harry Jay | Com. | Soph. | Norton, Kans. |
| Swarm, Mary May | Com. | Fr. | Norton, Kans. |
| Swarthout, Donald Mynard | Agri. | Jr. | San Bernardino, Cal. |
| Swarts, Ethel Elbertina | H.E. | Fr. | Portland |
| Swatman, Elmer Lee | Phar. | Soph. | New Plymouth, Idaho |
| Sweek, Alexander Don | C.E. | Fr. | Burns |
| Sweek, Esther | H.E. | Jr. | Burns |
| Sweeney, Edmund James | For. | Soph. | Portland |
| Sweet, Raymond James | C.E. | Fr. | Ferndale, Cal. |
| Tadlock, Marion C. | Ch.E. | Jr. | Olympia, Wash. |
| Taft, Gladys Dorothy | H.E. | Soph. | Portland |
| Taggart, Lawrence Gilbert | Com. | Fr. | Hillsboro |
| Tally, Carey | Agri. | Spec. | North Powder |
| Tannansee, Walter | Com. | Fr. | Portland |
| Tasto, Hilbert Carl | Com. | Jr. | Salem |
| Tate, David Geheler | Agri. | Sr. | Boise, Idaho |
| Tatom, Isaac Clay | I.A. | Spec. | Rickreall |
| Tatone, John Phillip | C.E. | Soph. | Arlington |
| Taube, Henry Herbert | Agri. | Soph. | Woodland, Wash. |
| Taylor, Charles Everett | Agri. | Jr. | Monroe, Wash. |
| Taylor, Elbert Vance | Com. | Soph. | Burns |
| Taylor, Fred A. | Com. | Sr. | Medford |
| Taylor, Harold Grant | C.E. | Voc. | Portland |
| Taylor, Herbert Mathew | Com. | Jr. | Corvallis |
| Taylor, Kenneth Somers | Agri. | Sr. | Glendale, Cal. |
| Taylor, Leslie Robert | Agri. | Spec. | Deer Park, Wash. |
| Taylor, Pearl Cyrilla | H.E. | Fr. | Warrenton |
| Taylor, Rhoda Mae | H.E. | Soph. | Corvallis |
| Taylor, Robert Brewster | Agri. | Sr. | Long Beach, Cal. |
| Taylor, Ruth Iris | H.E. | Voc. | Medford |
| Taylor, Velma Loretta | H.E. | Fr. | Corvallis |
| Teale, Harold Arthur | E.E. | Fr. | Battle Ground, Wash. |
| Tebb, Gordon Edward | Com. | Soph. | Aberdeen, Wash. |
| Teel, Joseph | E.E. | Fr. | Salem |
| Teevin, Joseph Francis | Agri. | Voc. | Corvallis |
| Telford, Wilbur Linden | M.E. | Sr. | Klamath Falls |
| Teller, Harry Clarence | C.E. | Spec. | Portland |
| Terhune, John Clarence | E.E. | Soph. | Jefferson |
| Thacker, James H. | C.E. | Soph. | Corvallis |
| Thacker, Richard Thomas | Agri. | Jr. | Corvallis |
| Tharp, Claude Warren | E.E. | Fr. | Alsea |
| Thayer, Verna Lorayne | Com. | Fr. | Boise, Idaho |
| Thomas, Adrian Oris | E.E. | Fr. | Portland |
| Thomas, Eleanor | Phar. | Fr. | Portland |
| Thomas, James B. | M.E. | Soph. | Junction City |
| Thomas, John B. | M.E. | Soph. | Junction City |
| Thomas, LeRoy Clinton | Agri. | Jr. | Philomath |
| Thomas, Marvin Alva | Phar. | Spec. | Junction City |
| Thomas, Rolland Shields | M.E. | Soph. | Long Beach, Cal. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| Thomas, William Elmer | Agri. | Voc. | Newberg |
| Thompson, Amy Ruth | Com. | Jr. | Corvallis |
| Thompson, Edna May | H.E. | Voc. | Corvallis |
| Thompson, Emily Cornelia | H.E. | Fr. | Corvallis |
| Thompson, George Francis | Agri. | Voc. | Corvallis |
| Thompson, Gordon Dexter | Ch.E. | Fr. | Salem |
| Thompson, John Gordon | Com. | Jr. | Westport |
| Thompson, Leslie Paul | M.E. | Jr. | Corvallis |
| Thompson, Mary Louise | H.E. | Fr. | Bend |
| Thompson, Mildred Hope | Phar. | Fr. | Falls City |
| Thompson, Oliver James | M.A. | Voc. | Lexington |
| Thompson, Tom Samuel | Agri. | Spec. | Nyasa |
| Thoreson, Roscoe | Phar. | Fr. | Jerome, Idaho |
| Thorndike, Austin Newman | Agri. | Fr. | Astoria |
| Thorp, Claude A. | Agri. | Spec. | Thorp, Wash. |
| Throne, Thelma Louise | H.E. | Sr. | Dallas |
| Thurston, Jabez W. | E.E. | Soph. | Eugene |
| Tibbetts, Joe Wood | Mines | Jr. | Portland |
| Tidd, Irva Adele | Com. | Fr. | Corvallis |
| Tilden, Rose Herriot | Com. | Fr. | Nehalem |
| Timberlake, Merritt Burr | Com. | Soph. | Newberg |
| Tindra, Stephen Lawrence | Com. | Fr. | Anaconda, Mont. |
| Tindle, Wyatt | Com. | Spec. | Brownsville |
| Tinker, George Henry | Agri. | Soph. | Seattle |
| Tipp, Emil G. P. | Agri. | Fr. | Portland |
| Tippery, Jean | Com. | Fr. | Corvallis |
| Tippery, Seth Jacob | For. | Voc. | Corvallis |
| Tobias, Kenneth Arthur | M.E. | Fr. | Marcola |
| Todd, John Wm. | Com. | Jr. | Portland |
| Tollber, Albert Clarence | Agri. | Voc. | Corvallis |
| Tolman, John Everett | I.A. | Soph. | Salem |
| Tonkin, Samuel | Agri. | Voc. | Brownsville |
| Tonseth, Marie Margaret | H.E. | Fr. | Portland |
| Tousey, Reginald Foster | For. | Fr. | Portland |
| Tovey, Irwin Dunbar | Agri. | Voc. | Amity |
| Tovey, Walter Bert | Com. | Fr. | Amity |
| Towle, Mary Edella | Opt. | | Gresham |
| Towne, Elbert Louis | Agri. | Spec. | Corvallis |
| Townsend, Andrew Jackson | Agri. | Spec. | Oakland |
| Townsend, Annie | H.E. | Sr. | Corvallis |
| Toy, Ernest William | Agri. | Soph. | Pasadena, Cal. |
| Tracy, Harold Hudson | E.E. | Fr. | Pocatello, Idaho |
| Tracy, John E. | For. | Spec. | Albany |
| Trader, Margaret Mathilde | H.E. | Fr. | Creswell |
| Traylor, Lela Imogene | H.E. | Soph. | Hoff |
| Trotter, Averill D. | Com. | Jr. | Corvallis |
| Trowbridge, Miles Lawrence | Agri. | Fr. | Portland |
| Trubey, Robert Bennett | Agri. | Voc. | Portland |
| Truedson, Hoka Nathaniel | Com. | Soph. | Gresham |
| Trullinger, John Paul | M.E. | Fr. | Astoria |
| Tschudy, Henry | M.A. | Voc. | Clackamas |
| Tubbesing, William Herman | M.E. | Jr. | Portland |
| Tubbs, Harold | E.E. | Fr. | Molalla |
| Tubbs, Lester S. | C.E. | Soph. | Molalla |
| Tucker, Floyd Lawrence | Ch.E. | Soph. | Forest Grove |
| Tucker, Galen Barthallow | E.E. | Fr. | Forest Grove |
| Tucker, George Edward | Agri. | Fr. | Astoria |
| Tucker, Lawrence E. | For. | Fr. | Portland |
| Tuley, William Feagan | Ch.E. | Jr. | Corvallis |
| Tulley, Stewart Wendell | Opt. | | Corvallis |
| Tumbleson, Iver G. | Com. | Spec. | Forest Grove |
| Tupper, Eugene Augustus | E.E. | Fr. | Snohomish, Wash. |
| Turner, Dorothy G. | Com. | Soph. | Ontario |
| Turner, George Guy | Agri. | Voc. | Corvallis |
| Turner, Joyce Bertha | Com. | Soph. | Ontario |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|---------------------------------|-------------------|-------------|----------------------|
| Turner, Marjorie | H.E. | Soph. | Ontario |
| Turner, Maynard E. | Com. | Sr. | Pasadena, Cal. |
| Turnipseed, David B. | Agri. | Voc. | Palmer, Texas |
| Turpen, Louis Leroy | Agri. | Soph. | Corvallis |
| Tuthill, Allen Fitzgerald .. | Agri. | Soph. | Oakland |
| Tuttle, Jean | H.E. | Soph. | Summerville |
| Tweed, Edith Lillie | Phar. | Fr. | Alamogordo, New Mex. |
| Twidwell, Leone | Phar. | Fr. | White Salmon, Wash. |
| Tyler, Herbert Dean | M.A. | Voc. | Brownsville |
| Uhlman, Ernest John | C.E. | Fr. | Scappoose |
| Updegraff, George Garvin .. | Com. | Soph. | Portland |
| U'Ren, Muriel Elizabeth | H.E. | Sr. | Portland |
| Urquhart, Orin Robert | Com. | Soph. | Moro |
| Utter, Mrs. Ruth Plank | Com. | Jr. | Woodburn |
| Vail, Charles Wallace | E.E. | Fr. | Carlton |
| Valson, John | Agri. | Voc. | Russia |
| Van Ackere, George Henry | E.E. | Soph. | Portland |
| Van Allen, William Lewis | Com. | Jr. | Redmond |
| Vance, Jean Elizabeth | Com. | Soph. | Corvallis |
| Vancil, Charles Hale | Com. | Fr. | Portland |
| Van Goethem, Albert Vincent .. | M.A. | Voc. | Rogue River |
| Vandecoevering, William J. .. | Agri. | Voc. | Forest Grove |
| Vandewalker, Hannah Dunlap .. | Com. | Spec. | Corvallis |
| Van Groos, Doris Alberta | H.E. | Soph. | Corvallis |
| Van Groos, Marjorie Alida | H.E. | Soph. | Corvallis |
| Van Hollebeke, Elvira D. | Phar. | Jr. | Walla Walla, Wash. |
| Van Hollebeke, Hortense Adeline | Com. | Jr. | Walla Walla, Wash. |
| Van Iorns, Runyan | Phar. | Spec. | Boise, Idaho |
| Vannice, Thomas K. | I.A. | Sr. | Corvallis |
| Van Valin, Esther | H.E. | Fr. | El Monte, Cal. |
| Van Winkle, Gertrude | Com. | Fr. | Weston |
| Varney, Bernice Lydia | H.E. | Jr. | Corvallis |
| Varney, Lois Bertha | H.E. | Jr. | Corvallis |
| Varney, Philip Leonard | Ch.E. | Soph. | Corvallis |
| Veach, Harold William | For. | Voc. | Corvallis |
| Veach, Raymond Robert | Com. | Soph. | Cottage Grove |
| Veneziano, Nicholas | Agri. | Soph. | Pasadena, Cal. |
| Vermilye, Hobart P. | Com. | Fr. | Yakima, Wash. |
| Versteeg, Ray Marion | M.E. | Soph. | Portland |
| Vestal, Adra Cora | H.E. | Jr. | Payette, Idaho |
| Vick, Bertha Pearle | Com. | Fr. | Salem |
| Vierhus, Conrad | For. | Fr. | Oregon City |
| Vinton, Hugh Coulter | M.E. | Fr. | New York, N. Y. |
| Vinyard, Harold Roth | E.E. | Soph. | Canby |
| Vogler, Bonita Gladys | H.E. | Voc. | Kimball, Neb. |
| Vogler, Ruth Muriel | H.E. | Voc. | Kimball, Neb. |
| von Lehe, Agnes | H.E. | Sr. | Corvallis |
| von Lehe, Erna | H.E. | Sr. | Corvallis |
| Voorhies, Claude Guy | M.E. | Soph. | Corvallis |
| Wade, Alva Rich | Agri. | Voc. | Clackamas |
| Wade, Georgia Mae | H.E. | Soph. | La Grande |
| Wade, Wythel | H.E. | Sr. | Island City |
| Wadsworth, Frances Merle | Com. | Soph. | Portland |
| Wadsworth, Ray Maxwell | Agri. | Fr. | Santa Rosa, Cal. |
| Wagner, Bernhardt Rudolph .. | Com. | Soph. | Portland |
| Waggoner, Paul L. | Agri. | Voc. | Laclede, Idaho |
| Wagner, Elinor Smith | H.E. | Fr. | Corvallis |
| Wagner, Henry John | M.E. | Soph. | Portland |
| Wagner, Minnie G. | H.E. | Soph. | Reardon, Wash. |
| Waid, Dollie Day | H.E. | Jr. | Yakima, Wash. |
| Waid, Ora Thelma | Com. | Fr. | Lohman, Mont. |
| Wait, Elwood Lee | Com. | Soph. | Sacramento, Cal. |
| Wakefield, Arthur R. | Agri. | Sr. | Forsyth, Mont. |
| Wakefield, Harold Smith | Agri. | Sr. | Fresno, Cal. |
| Wakeman, Annette Elene | H.E. | Spec. | Medford |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|---------------------|
| Wakeman, Maurice Mahany | Com. | Jr. | Medford |
| Wakeman, Theodore F. | M.A. | Voc. | Corvallis |
| Walch, Bess | Com. | Jr. | Portland |
| Waldo, Fordyce Lathrop | Com. | Fr. | Corvallis |
| Waldo, George Fordyce | Agri. | Jr. | Dayton |
| Walker, Arthur V. | C.E. | Fr. | Portland |
| Walker, Dorothy Irene | H.E. | Spec. | Corvallis |
| Walker, George R. | C.E. | Fr. | Portland |
| Walker, George Sutherland | For. | Fr. | Portland |
| Walker, Jesse Theodore | M.E. | Fr. | Salem |
| Walker, Pierce Charman | Mines. | Fr. | Oregon City |
| Walker, Robert Edwin | Com. | Sr. | Mancos, Colorado |
| Wallace, George Arthur | M.E. | Soph. | Bishop, Colorado |
| Wallace, Roderick Alvin | Agri. | Fr. | Seattle, Wash. |
| Wallach, Albert Rudolph | Agri. | Fr. | Fenton, Wisconsin |
| Walpole, John Kenneth | Agri. | Sr. | Portland |
| Walsted, John Palmer | Ch.E. | Sr. | Portland |
| Walters, Eugene Paul | Com. | Soph. | Hillyard, Wash. |
| Walther, Albert August | C.E. | Jr. | Portland |
| Wanless, Rupert Alred | C.E. | Soph. | Corvallis |
| Ward, Mina Aray | Com. | Fr. | Portland |
| Waring, Earl Russell | C.E. | Fr. | Portland |
| Waring, Thomas Glenn | C.E. | Jr. | Portland |
| Warman, Lloyd Thomas | M.E. | Fr. | Philomath |
| Warner, Willard M. | Com. | Voc. | Jefferson |
| Warren, Almon Alanson | Agri. | Spec. | Elma, Wash. |
| Warrens, Robert Hewett | Agri. | Sr. | Sherwood |
| Warriner, Newton Embry | C.E. | Soph. | Hermiston |
| Washburn, Harry Lee | For. | Spec. | Berkenfeld |
| Waterhouse, Edward John | Agri. | Soph. | Oakland, Cal. |
| Waterman, Walter Kinsley | Agri. | Spec. | Colwell, Idaho |
| Waters, Frank Northrup | E.E. | Sr. | Corvallis |
| Waters, Louemma | H.E. | Soph. | Los Angeles |
| Waters, William Claude | Agri. | Voc. | Seattle, Wash. |
| Watkins, Harold H. | Agri. | Jr. | Kalama, Wash. |
| Watnee, Lloyd Harold | Ch.E. | Fr. | Portland |
| Watson, Frances E. | H.E. | Soph. | Corvallis |
| Watson, Margaret Bourne | Com. | Sr. | Corvallis |
| Watson, Stanely Everett | E.E. | Fr. | Hillshore |
| Watts, Victor William | E.E. | Spec. | Scappoose |
| Waugh, Kathryn Marie | H.E. | Fr. | Toledo |
| Waugh, Robert Walter | C.E. | Sr. | Hood River |
| Waxmuth, William | Agri. | Jr. | St. Johns |
| Weage, Avery Dudley | Agri. | Jr. | Seattle, Wash. |
| Weatherford, Annette | H.E. | Soph. | Corvallis |
| Weatherford, James Knox | C.E. | Fr. | Corvallis |
| Weaver, Don Cecil | Agri. | Fr. | Brawley, Cal. |
| Webb, George Hubert | Agri. | Fr. | Corvallis |
| Webber, Charles H. | Agri. | Sr. | Milwaukie |
| Webber, David Edwin | Phar. | Soph. | Portland |
| Webber, George Wilbur | Agri. | Voc. | Orting, Wash. |
| Weber, Georgia Muriel | H.E. | Sr. | Halsey |
| Webster, Earl Adelbert | Agri. | Sr. | Corvallis |
| Webster, Frank Augustus | Phar. | Fr. | Rathdrum, Idaho |
| Wechter, Harry Alvin | M.E. | Fr. | Salem |
| Weed, Edith V. | H.E. | Soph. | Beaverton |
| Weed, Wilbur Wynn | Agri. | Sr. | Beaverton |
| Weger, Wallace Dewey | Agri. | Spec. | Washougal, Wash. |
| Wehrly, Lawrence Frederick | Phar. | Jr. | Forest Grove |
| Weidenheimer, Norman William | Mines. | Sr. | Corvallis |
| Weigand, Neva F. | H.E. | Fr. | Culver |
| Weisenborn, Henry William | Com. | Sr. | Portland |
| Weiss, Albert | Com. | Voc. | Gresham |
| Weiss, Zeno Francis | I.A. | Jr. | Elgin |
| Welch, Wilbur Hazelton | C.E. | Jr. | Corvallis |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|---------------------|
| Weller, George C. | C.E. | Sr. | Salem |
| Weller, Joseph Barnett | Agri. | Soph. | Mosier |
| Weller, William Henry | M.E. | Jr. | Portland |
| Wellman, Harry R. | Agri. | Sr. | Umapine |
| Wells, Harold Earl | Agri. | Soph. | Marcola |
| Wells, Mrs. Ione | H.E. | Spec. | Portland |
| Wells, Margaret Caroline | H.E. | Soph. | Marcola |
| Welson, Morris Louis | Com. | Spec. | Hartford, Conn. |
| West, A. Flavius | Com. | Jr. | Portland |
| West, George G. | C.E. | Sr. | Portland |
| West, Hal Frederick | M.E. | Soph. | Corvallis |
| Westering, Myrton L. | Com. | Jr. | Portland |
| Westering, Ralph Alvin | M.E. | Jr. | Portland |
| Weston, Elwyn Kelly | Agri. | Soph. | Portland |
| Wharton, Florence Agatha | Phar. | Jr. | Roseburg |
| Wharton, Malcolm Frederic | Agri. | Jr. | Garden Grove, Cal. |
| Wheeler, Fred E. | Agri. | Voc. | Yakima, Wash. |
| Wheeler, Sheldon Chatfield | Agri. | Soph. | Santa Ana, Cal. |
| Whitaker, Gladys Salisbury | H.E. | Voc. | Corvallis |
| Whitaker, William Carey | Agri. | Sr. | Corvallis |
| Whitcomb, Charles Raymond | E.E. | Soph. | Portland |
| White, Arnold Parker | C.E. | Spec. | Vancouver, Wash. |
| White, Floyd Eberley | I.A. | Fr. | Salem |
| White, Earl Eaton | Agri. | Jr. | Corvallis |
| White, John Edward | M.A. | Voc. | Nortons |
| White, Nathan S. | Com. | Voc. | Portland |
| White, Pauline | H.E. | Soph. | Portland |
| White, Robert Franklin | Agri. | Fr. | Payette, Idaho |
| White, Valdes Bud | E.E. | Fr. | Scappoose |
| Whitlock, Edith Elizabeth | H.E. | Fr. | Portland |
| Whitehorn, Thomas Wells | Com. | Soph. | Corvallis |
| Whitmore, Merritt | E.E. | Soph. | Portland |
| Whitney, Meryle Scudder | Com. | Fr. | Salem |
| Whitted, Floyd Clinton | Phar. | Soph. | San Dimas, Cal. |
| Whittemore, Frances Willard | H.E. | Spec. | Corvallis |
| Whittemore, Hopewell | Com. | Fr. | Corvallis |
| Whittle, William David | M.E. | Fr. | Ashland |
| Whobrey, James Leland | Agri. | Voc. | Jerome, Idaho |
| Wickersham, Harold B. | Com. | Soph. | Alhambra, Cal. |
| Wickersham, Howard Waldo | Com. | Soph. | Alhambra, Cal. |
| Wicks, Clarence Edward | Com. | Soph. | Corvallis |
| Widby, Arthur B. | Agri. | Jr. | Myrtle Point |
| Widmark, Lucy Christina | H.E. | Voc. | Chichagof, Alaska |
| Wiest, Almon L. | Com. | Soph. | Portland |
| Wievesick, Leslie A. | Com. | Soph. | Oregon City |
| Wickberg, Martha Catherine | H.E. | Jr. | Salem |
| Wilbur, Robert Fisher | Agri. | Soph. | Washington, D. C. |
| Wilcox, Dora Elma | H.E. | Fr. | Ontario, Cal. |
| Wild, Mabel Jean | Com. | Fr. | Seaside |
| Wilderman, Sonia Edyth | H.E. | Jr. | Portland |
| Wildman, John Adrian H. | Com. | Spec. | Portland |
| Wiley, Clinton Marion | M.E. | Spec. | Fort Klamath |
| Wilhelm, Roger Jesse | Mines | Jr. | The Dalles |
| Wilkinson, Edith Mae | Com. | Fr. | Portland |
| Wilkinson, William | Agri. | Voc. | Perryville, Mo. |
| Willey, Earl Clark | M.E. | Sr. | Coquille |
| Williams, Burton Monteith | M.A. | Voc. | Dexter |
| Williams, Carl Alfred | Phar. | Sr. | Alpine |
| Williams, Dwight Brown | Agri. | Soph. | Long Beach, Cal. |
| Williams, George Martin | Phar. | Soph. | Dryden |
| Williams, George Winfield | E.E. | Fr. | Portland |
| Williams, Ray Terry | Agri. | Soph. | Corvallis |
| Williams, Sumner W. | For. | Sr. | Glendale |
| Williams, William Edward | C.E. | Fr. | Bend |
| Williamson, Fred Nelson | Agri. | Sr. | Yachats |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|-----------------------|
| Wilson, Arnel | Com. | Fr. | Dallas |
| Wilson, Celia | Agri. | Jr. | Portland |
| Wilson, Charles Wilbur | M.E. | Soph. | Portland |
| Wilson, Clarice | H.E. | Soph. | Portland |
| Wilson, Ephraim | M.A. | Voc. | Olex |
| Wilson, Floyd William | For. | Fr. | Prosser |
| Wilson, George Robert | M.A. | Voc. | Mosier |
| Wilson, Herbert Albion | M.E. | Soph. | Astoria |
| Wilson, Heston Lawshe | Agri. | Sr. | Hemet, Cal. |
| Wilson, Homer C. | Agri. | Voc. | Corvallis |
| Wilson, Max Edmund | Com. | Fr. | St. Helens |
| Wilson, Mrs. Ruth Millicent | Agri. | Fr. | Boring |
| Wilson, Thad Fisher | E.E. | Soph. | Portland |
| Wilson, Wendell Charles | Com. | Fr. | McMinnville |
| Wimer, Fred Arnold | Com. | Fr. | Coquille |
| Wininger, Sarah | H.E. | Soph. | Los Angeles |
| Winne, Charles Burton | M.E. | Fr. | Ashland |
| Winslow, Marion J. | E.E. | Soph. | Dufur |
| Winters, William Reynolds | Com. | Fr. | La Grande |
| Wise, Mabel Odessa | Com. | Soph. | Cathlamet, Wash. |
| Wise, Zina A. | C.E. | Sr. | Portland |
| Wisker, Aubrey Nelson | Agri. | Fr. | Corvallis |
| Wisker, Mildred | H.E. | Spec. | Grass Valley, Cal. |
| Wiswall, Mercedes | Com. | Fr. | Portland |
| Witman, Daniel Phillip | Agri. | Fr. | Santa Ana, Cal. |
| Wittliff, Jack Allen | C.E. | Jr. | The Dalles |
| Wohlheter, Helen B. | H.E. | Fr. | Woodburn |
| Wohler, Victor Joseph | M.E. | Jr. | Hillsboro |
| Wolf, Wilbur Stanley | Com. | Fr. | Albany |
| Wolfe, George Hobart | E.E. | Soph. | Brownsville |
| Wolfe, Harry McKinley | For. | Fr. | Brownsville |
| Wolfken, Dorothea Marie | Opt. | | Corvallis |
| Wolter, George | Agri. | Voc. | Twin Falls, Idaho |
| Womer, Chester Franklin | Com. | Sr. | Estacada |
| Wong, Sam Herbert | E.E. | Soph. | Portland |
| Wood, Alice Mary | Com. | Fr. | Salem |
| Wood, Clarence Earl | C.E. | Fr. | Dryad, Wash. |
| Wood, Herman Ernest | For. | Soph. | McMinnville |
| Wood, Josephine B. | Opt. | | Weiser, Idaho |
| Wood, La Velle | H.E. | Sr. | Corvallis |
| Wood, Lucile Olivia | Com. | Fr. | Boise, Idaho |
| Wood, Lyle Robert | Com. | Spec. | Mill City |
| Wood, Mabel Altona | H.E. | Fr. | Gresham |
| Wood, William Alfred | C.E. | Soph. | Cascade, Idaho |
| Woodard, Helen M. | Com. | Soph. | Long Beach, Cal. |
| Woodruff, Lois Marie | Com. | Jr. | Roseburg |
| Woods, Clifford Glenn | M.A. | Voc. | La Grande |
| Woods, Harold | E.E. | Fr. | Medford |
| Woods, Marvin Arthur | Phar. | Soph. | Jerome, Idaho |
| Woods, Sylvia Beryl | Phar. | Jr. | Corvallis |
| Woodward, Eleanor | H.E. | Fr. | Portland |
| Woodward, Lawrence Ridley | Agri. | Spec. | Arago |
| Woodward, Mary | H.E. | Sr. | Portland |
| Woodward, Robert Cecil | Agri. | Sr. | Victoria, B. C., Can. |
| Woolery, Virginia Cleveland | H.E. | Jr. | Pasadena, Cal. |
| Woolley, Ray Laurel | E.E. | Soph. | Cottage Grove |
| Wourms, Bertha Anna | H.E. | Spec. | Tualatin |
| Wright, Anna Pearl | H.E. | Fr. | Portland |
| Wright, Charles Curry | Agri. | Fr. | Portland |
| Wright, Clarence Leon | C.E. | Fr. | Marshfield |
| Wright, Clyde Bernard | C.E. | Jr. | Portland |
| Wright, Frances Maurine | H.E. | Jr. | Corvallis |
| Wright, Georgia | H.E. | Spec. | Union |
| Wright, John | M.E. | Fr. | La Grande |
| Wright, Malcolm E. | Ch.E. | Sr. | Dufur |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|---------------------|
| Wright, Mildred | Opt. | | Salem |
| Wyland, Ray | For. | Spec. | Myrtle Point |
| Yadon, Charles M. | E.E. | Fr. | Klamath Falls |
| Yancey, Hazel | Com. | Fr. | Prineville |
| Yantis, Luther | Mines | Soph. | Corvallis |
| Yates, Willard Wilson .. | Agri. | Sr. | Salem |
| Yelverton, Helen | H.E. | Fr. | Olympia |
| Yergen, William Grant .. | Agri. | Voc. | Newberg |
| Yerington, Myles | C.E. | Soph. | Omak, Wash. |
| Yexley, Lyle Marion | H.E. | Sr. | Oregon City |
| Yexley, Myrle Allen | H.E. | Sr. | Oregon City |
| York, Ralph Lee | M.E. | Jr. | North Powder |
| Young, David Roosevelt .. | Ch.E. | Soph. | Portland |
| Young, Ellsworth | For. | Sr. | Mt. Solo, Wash. |
| Young, Helen Louise | Com. | Soph. | Portland |
| Young, Howard Harold | M.E. | Soph. | Mt. Solo, Wash. |
| Young, James Garvin | C.E. | Soph. | Burns |
| Young, Ruth Alice | H.E. | Spec. | Hood River |
| Young, William Nelson | Com. | Jr. | Eugene |
| Younger, Stanley Walter .. | E.E. | Fr. | Prairie City |
| Yunker, Edwin Arthur | M.E. | Soph. | Gresham |
| Zell, Kenneth Mertin | Mines | Fr. | Salem |
| Zeller, Philip James | E.E. | Fr. | Portland |
| Ziegler, Herbert M. | Agri. | Soph. | White Salmon, Wash. |
| Zimmerdahle, Frank W. | I.A. | Jr. | Clatskanie |
| Zuercher, Albert Henry | Agri. | Voc. | Hillsboro |

SPECIAL MUSIC STUDENTS

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|------------------------|---------------|---------------------|
| Adams, George Harold | Violin | Corvallis |
| Albin, Mary Christine | Piano | Los Angeles, Cal. |
| Atwood, Margaret | Dunning | Corvallis |
| Axtell, Beulah | Violin | Corvallis |
| Balderree, Esther | Guitar | Corvallis |
| Ballard, Leland W. | Saxophone | Corvallis |
| Bates, Clarence C. | Clarinet | Corvallis |
| Bayne, Darrell | Piano | Albany |
| Bier, Blanche | Dunning | Corvallis |
| Bonney, Oris Pauline | Piano | Corvallis |
| Briggs, Lulu P. | Cornet | Corvallis |
| Buchanan, Ruth | Piano | Corvallis |
| Bullis, G. | Saxophone | Corvallis |
| Bullis, Lawrence D. | Saxophone | Corvallis |
| Calouri, Agnes Dorothy | Piano | Portland |
| Christianson, Clifford | Cornet | Corvallis |
| Clyde, Elizabeth | Violin | Corvallis |
| Cooper, Raymond | Cornet | Corvallis |
| Curl, Ethel M. | Voice | Corvallis |
| Curtis, Mamie | Mandolin | Corvallis |
| Davis, Herschel | Piano | Philomath |
| Dearborn, Kathryn | Voice | Corvallis |
| Dearborn, Isabel | Piano | Corvallis |
| Dobell, Bernal E. | Guitar | Corvallis |
| Dubach, Helen | Piano | Corvallis |
| Dunham, Bert Loren | Trombone | Corvallis |
| Elam, Ivan Le Roy | Violin | Corvallis |
| Felberbaum, Leah | Dunning | Corvallis |
| Frost, Dorothy | Dunning | Corvallis |
| Hague, Dorothy | Piano | Seattle, Wash. |
| Hall, Lester Elwin | Saxophone | Corvallis |
| Hector, Gilmore H. | Saxophone | Albany |
| Hout, Clarence | Saxophone | Corvallis |
| Humphrey, Helen | Piano | Corvallis |
| Ingle, Jean | Saxophone | Corvallis |
| Jennings, Evelyn F. | Guitar | Corvallis |
| Kerr, Marion R. | Violin | Corvallis |
| Lucas, Edith Anderson | Piano | Corvallis |
| McCaw, Ruth | Piano | Prescott |
| McCoy, Flora Marie | Piano | Corvallis |
| McLaughlin, Glenn | Trombone | Corvallis |
| MacLean, Constance | Piano | Portland |
| Matthis, Austin | Violin | Corvallis |
| Maynard, Clyde | Clarinet | Corvallis |
| Merryman, Howard E. | Flute | Corvallis |
| Milliken, Lucy | Voice | Corvallis |
| Minshall, Frances J. | Voice | Philomath |
| Nichols, Ward M. | Piano | Corvallis |
| Nissen, Clara M. | Violin | Corvallis |
| Pape, Albert H. | Violin | Corvallis |
| Pape, Darwin J. | Piano | Corvallis |
| Parker, Grace | Piano | Monmouth |
| Parkinson, Elizabeth | Voice | Corvallis |
| Pechin, Rosemary | Piano | Corvallis |
| Peterson, Fern Edith | Piano | Philomath |
| Pooler, Lewis | Trombone | Corvallis |
| Pope, George | Cornet | Corvallis |
| Read, Echo | Violin | Corvallis |
| Rondeau, Hope E. | Piano | Corvallis |
| Sandon, Katherine | Piano | Corvallis |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|------------------------------|-----------------|---------------------|
| Shea, Esther Elizabeth | Voice | Corvallis |
| Sherwood, Lucy M. | Piano | Corvallis |
| Short, Edward Clyde | Cornet | Corvallis |
| Smith, Emil | Saxaphone | Albany |
| Smith, Martha Virginia | Piano | Corvallis |
| Smith, Veda | Piano | Philomath |
| Southworth, Lena | Organ | Corvallis |
| Stewart, Blair | Voice | Corvallis |
| Sweeney, Elynore | Piano | Corvallis |
| Sweeney, Mrs. | Harmony | Corvallis |
| Taylor, Fred E. | Saxophone | Corvallis |
| Thurman, Lela | Banjo | Corvallis |
| Ward, Gladys | Piano | Philomath |
| White, Emma P. | Piano | Corvallis |
| Whitlock, Daniel | Cornet | Corvallis |
| Whittemore, John | Clarinet | Corvallis |
| Wilkes, Clare | Voice | Corvallis |
| Wilt, Mrs. C. O. | Guitar | Corvallis |
| Woodruff, Virginia | Dunning | Corvallis |

SUMMER SESSION STUDENTS, 1920

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|--------------------------|---------------|---------------------|
| Abegg, Fred Anton | Agri | Portland |
| Abraham, Dorothea | H.E | Roseburg |
| Ackley, Ward M. | M.E | Portland |
| Adams, Hubert Gilmore | Agri | Corvallis |
| Agee, Leta | H.E | Corvallis |
| Ahlson, Alete | H.E | Hillsdale |
| Allison, Wesley H. | Agri | Prineville |
| Altquist, Dorothy | H.E | Turlock, Cal. |
| Alves, Manuel V. | I.A | Pilot Rock |
| Anderson, Ellen Caroline | H.E | Portland |
| Andrew, Walter S. | Agri | La Grande |
| Andrews, Abby | H.E | Corvallis |
| Andrews, Charles L. | I.A | Oregon City |
| Andrews, Marguerita | H.E | Corvallis |
| Appelman, Marguerite | Com | Corvallis |
| Archibald, Ella R. | H.E | Corvallis |
| Armstrong, Ellen F. | Coll | Wasco |
| Arnold, Pernie Clifford | H.E | Corvallis |
| Atwood, Alice L. | H.E | Corvallis |
| Axtell, Beulah M. | Coll | Corvallis |
| Bacon, Virginia Cleever | Coll | Arcata, Cal. |
| Baker, Donnavan | Com | Milton |
| Barlow, F. L. | Agri | Heppner |
| Barratt, Marjorie M. | H.E | Portland |
| Barton, Wileta | H.E | Albany |
| Beck, Bertha Jane | Com | Albany |
| Beck, Borden F. | Coll | Corvallis |
| Beck, Pauline | H.E | Corvallis |
| Becker, Florence C. | H.E | Corvallis |
| Bell, Clayton | Agri | Drummond, Idaho |
| Benefiel, Frankie | Coll | Corvallis |
| Bennett, Jesse J. | Agri | Weston |
| Berry, Hazel E. | H.E | Yacolt, Wash |
| Binns, Mary Anderson | H.E | Corvallis |
| Bird, James A. | Coll | Astoria |
| Boehme, Henry E. | Agri | Boise, Idaho |
| Boetticher, Marion L. | Com | Corvallis |
| Boord, Opal Irene | H.E | Corvallis |
| Borstel, Floye Elizabeth | H.E | Kent |
| Bosworth, Mrs. R. L. | P.E | Corvallis |
| Boyle, Wayne J. | Coll | Canyonville |
| Boyer, Ralph S. | I.A | Corvallis |
| Bramkamp, Charles C. | Com | Fresno, Cal. |
| Bray, Ethel | Coll | Albany |
| Breit, Kathleen | P.E | Arkadelphia, Ark. |
| Breit, Mrs. W. J. | P.E | Arkadelphia, Ark. |
| Breuer, Nellie | Coll | Myrtle Point |
| Brodin, Minerva P. | Coll | Albany |
| Brooks, Clark F. | Com | Hazelton, Idaho |
| Brown, Shirley G. | H.E | Corvallis |
| Brucher, Olga | Com | Corvallis |
| Brumbaugh, Madeline | H.E | Corvallis |
| Buchanan, Ruth | Music | Corvallis |
| Buckley, Floyd J. | Agri | Corvallis |
| Burgess, Elsie Genevieve | H.E | Corvallis |
| Black, A. Burr | Com | Corvallis |
| Buxton, Orla R. | Coll | Corvallis |
| Cannon, Ray Edwin | Com | Corvallis |
| Case, Sarah E. | Com | Portland |
| Castle, Ernest H. | Coll | Philomath |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|--------------------------|---------------|-------------------------|
| Chamberlain, Phoebe Mae | H.E. | Corvallis |
| Chambers, Bernice G. | P.E. | Corvallis |
| Chambers, Harriett | Com. | Corvallis |
| Chambers, M. A. | P.E. | Corvallis |
| Chandler, Charles R. | Com. | Fresno, Cal. |
| Chaney, Juanita | H.E. | Corvallis |
| Chapman, Sanford E. | Agri. | Lostine |
| Chase, Marion | H.E. | Corvallis |
| Cheney, Frederick P. | Agri. | Wiflow, Wash. |
| Choate, Homer S. | Agri. | Portland |
| Chrisman, Coz S. | Agri. | Wolf Point, Mont. |
| Churchill, Jennie B. | P.E. | Corvallis |
| Cifre, Guillermo | Coll. | Spain |
| Clark, Orrin Lester | Coll. | Portland |
| Clinton, Hal | Coll. | Albany |
| Clodfelter, Dae Y. | Coll. | Corvallis |
| Cole, Edith Millicent | H.E. | Heisson, Wash. |
| Coleman, Herbert S. | Agri. | Wells |
| Corcoran, John Boyce | Agri. | Spokane |
| Coryell, Ruby M. | P.E. | Riddle |
| Coshow, Dale | H.E. | Roseburg |
| Covell, Walter Page | Coll. | Corvallis |
| Coyne, Bernard B. | Coll. | Wallace |
| Creson, Cycel Hugh | Agri. | Salem |
| Curriu, Margaret | H.E. | Corvallis |
| Cyrus, Adda | Com. | Corvallis |
| Dakin, Hursey A. | I.A. | Freewater |
| Damon, Ada | P.E. | Ferndale, Cal. |
| Danstrom, Edith May | H.E. | Creswell |
| Davidson, Della | H.E. | San Rafael, Cal. |
| Davis, Lulo Ann | H.E. | Los Gatos, Cal. |
| Davis, Martha Ellen | H.E. | Willow Creek, Mont. |
| Davis, Mrs. Merle Bonney | H.E. | Corvallis |
| Davis, Norma | Coll. | Corvallis |
| de Macedo, William | Coll. | Victoria, B. C., Canada |
| Dent, Milton | Com. | Amity |
| Devall, Orris Ervin | Agri. | Barton |
| Dickey, Grace E. | H.E. | Ashland |
| Dinger, Viola Ruth | H.E. | Gresham |
| Dillard, Walter Boone | I.A. | Eugene |
| Dinges, Grace May | H.E. | Corvallis |
| Dixon, Keturah Dorothy | Coll. | St. Helens |
| Doxey, Mrs. N. G. | H.E. | Corvallis |
| Dunkelberger, Gustav | P.E. | Corvallis |
| Dunklee, Myra Sprague | H.E. | Corvallis |
| Elce, Mona L. | H.E. | Corvallis |
| Elgin, Helen Louise | Coll. | Corvallis |
| Elmore, John C. | Agri. | Star, Idaho |
| English, C. E. | I.A. | Portland |
| Erwin, Joseph Orlando | I.A. | Philomath |
| Evans, Ora Leota | H.E. | Mosier |
| Everson, Areta I. | Com. | Tillamook |
| Ewing, Mary A. | H.E. | Corvallis |
| Farnham, Hugh W. | Agri. | Hillsboro |
| Fegley, Pearl | Com. | Corvallis |
| Fleener, Hazel Ilene | H.E. | Salem |
| Flood, Ruth Elizabeth | Coll. | Portland |
| Forest, Bernice | H.E. | Corvallis |
| Forest, Harriett L. | P.E. | Portland |
| Forest, Mildred Marjorie | H.E. | Delta, Utah |
| Forney, Mate Emily | P.E. | Cashmere, Wash. |
| Foster, Ada Elizabeth | Coll. | Corvallis |
| Foster, Lucile | Coll. | Corvallis |
| Fox, Otto Lee | I.A. | Albany |
| Fox, Stella | Coll. | Spokane, Wash. |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|----------------------------|---------------|---------------------|
| France, Frank Lloyd | Coll. | Corvallis |
| Franklin, Leon J. | Agri. | Keating |
| Frease, Helen M. | H.E. | Corvallis |
| Frease, Katherine | P.E. | Corvallis |
| Freeman, Andrew Bert | Agri. | Ashland |
| Freeman, Ethel | Coll. | Ashland |
| Fulkerson, Hazel | H.E. | Weiser, Idaho |
| Fuller, Almeda J. | Coll. | Dallas |
| Funk, Vera | H.E. | Corvallis |
| Gain, M. Jane | Com. | Corvallis |
| Galbraith, Huxley L. | Agri. | Woodburn |
| Gardner, Helen C. | H.E. | Portland |
| George, Henry L. | Coll. | Heceta |
| Glumace, Tony | Agri. | Los Angeles |
| Goff, Florence Naomi | Com. | Corvallis |
| Goff, Lorena | P.E. | Corvallis |
| Gragg, Bessie | H.E. | Corvallis |
| Grat, E. Glenva | Coll. | Corvallis |
| Grisby, Helen | H.E. | Albany |
| Grigwire, Edward F. | Agri. | Portland |
| Groce, Eustice C. | For. | Portland |
| Gumble, Philip Joseph | I.A. | Corvallis |
| Gunter, Paul A. | Coll. | Gunter |
| Hackett, Elma L. | H.E. | Corvallis |
| Hadley, Marie G. | Com. | Eugene |
| Haines, Bernice May | H.E. | Portland |
| Hall, Phila H. | H.E. | Corvallis |
| Hall, Thorland Richey | Coll. | Yakima, Wash. |
| Haller, Fern E. | H.E. | Corvallis |
| Hamill, Robert M. | Coll. | Lents |
| Hammond, Blanche | Coll. | Corvallis |
| Hammond, Louise K. | H.E. | Corvallis |
| Hampton, Maggie Luella | Com. | Nortons |
| Hardy, M. E. | Agri. | Corvallis |
| Harnish, Margaret Frances | H.E. | Myrtle Point |
| Haynes, Ross E. | Com. | Lebanon |
| Heath, Myrtle | H.E. | Corvallis |
| Heider, Lorena May | H.E. | Sheridan |
| Heller, Anna E. | Coll. | Spokane |
| Henkle, Hazel H. | H.E. | Moro |
| Henkle, Rose | Coll. | Corvallis |
| Henry, Donna Belle | Com. | Eugene |
| Hickethiere | Agri. | Portland |
| Hill, John P. | Agri. | Ardmore, Okla. |
| Hochstetler | Agri. | Woodburn |
| Hoffman, Myrtle M. | H.E. | Bacona |
| Holverson, Amanda | H.E. | Canby |
| Hoover, Marie | Coll. | Okanogan, Wash. |
| Horack, Carl Wm. | I.A. | Portland |
| Hoskinson, Jessie C. | P.E. | Moro |
| Houck, Agnes C. | H.E. | Portland |
| Howser, Jacob J. | Coll. | Alsea |
| Hout, Lillian | Com. | Corvallis |
| Howard, Esther | Coll. | Corvallis |
| Howard, Mrs. E. W. | H.E. | Corvallis |
| Howd, Otis T. | Agri. | Dryad, Wash. |
| Howard, Royal | Coll. | Albany |
| Howell, Katherine M. | Coll. | Eugene |
| Huddlestons, Lucretia | Coll. | Portland |
| Hudson, Leland C. | Music | Tacoma, Wash. |
| Huenergardt, Lorena Sabina | H.E. | Sutherlin |
| Huffaker, Neal M. | Com. | Corvallis |
| Hughson, Elizabeth | H.E. | Corvallis |
| Humphrey, Helen | Music | Corvallis |
| Hunsperger, Violet | Coll. | Corvallis |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|-------------------------|---------------|------------------------|
| Hunter, Addie Roberta | Coll. | Corvallis |
| Ingram, Alfred Charlton | I.A. | Summerville |
| Jackman, Oral | H.E. | Lynden, Wash. |
| Jackson, Charles A. | Agri. | Bend |
| Jackson, Mildred | Coll. | Corvallis |
| Jaques, Marshall | Coll. | Diamond, Wash. |
| Jenks, Florence M. | P.E. | Tangent |
| Jenks, Marylee | Com. | Tangent |
| Jewel, Eslie | Coll. | Corvallis |
| Jewel, Mary | H.E. | Corvallis |
| John, Helen S. | Com. | Corvallis |
| Johnson, Wanda | Coll. | Corvallis |
| Johnston, Jane Agnes | P.E. | Corvallis |
| Johnston, Ruth | Com. | Corvallis |
| Joost, George Edward | Coll. | Portland |
| Jordan, Stella | Music | Corvallis |
| Kessi, William A. | Coll. | Harlan |
| Kilham, Oliver Frank | Coll. | Newberg |
| Kimmell, Walter William | I.A. | Redding, Cal. |
| King, Anita R. | Coll. | Portland |
| King, Gladys | Coll. | Corvallis |
| Knauff, Bessie E. | H.E. | Newport |
| Knight, Edwin | Coll. | San Luis Obispo, Cal. |
| Knight, Florence | H.E. | San Luis Obispo, Cal. |
| Krueger, Hans Louie | Com. | Corvallis |
| Lafky, Herman E. | Com. | Corvallis |
| Landall, Lester Henry | I.A. | Lynden, Wash. |
| Lassiter, Sam C. | I.A. | Corvallis |
| Laukins, Hazel Claire | H.E. | Estacada |
| Launder, Milton K. | M.A. | Tacoma, Wash. |
| Law, Maude | H.E. | Corvallis |
| Leathers, Helen C. | I.A. | Burton, Wash. |
| Lee, Henry C. | Agri. | Eugene |
| Lee, Norman R. | Agri. | Echo |
| Leeper, Mrs. Emma | Coll. | Oakland |
| Lefler, Leonard | Agri. | Stanfield |
| Leland, Mildred | Com. | Corvallis |
| Leonard, Ella | Coll. | Corvallis |
| Leonard, J. D. | Coll. | Burns |
| Leonard, Odessa | P.E. | Portland |
| Lewis, Marquis D. | Agri. | Corvallis |
| Lewis, Mary Adele | H.E. | Corvallis |
| Light, Bernice M. | P.E. | Eugene |
| Lilly, Grace | Coll. | Portland |
| Linkey, Tulace E. | H.E. | Grants Pass |
| Loucks, Paul W. | Agri. | Brownsville |
| Lucas, Clifford Allen | I.A. | Portland |
| Ludford, Elma | H.E. | Eugene |
| Lyne, Phyllis Ellen | Coll. | Creston, B. C., Canada |
| McBride, Winifred Lola | H.E. | Eddyville |
| McCaw, Bessie Constance | Coll. | Prescott, Wash. |
| McCormack, Bertha | Com. | Roseburg |
| McCormack, Raymond E. | Coll. | Roseburg |
| McCormick, Harol Craig | I.A. | Gresham |
| McCoy, Flora M. | P.E. | Corvallis |
| McFadden, Mary | Coll. | Corvallis |
| McFarlan, Donald | Coll. | Corvallis |
| McKee, L. B. | Coll. | Woodburn |
| McKee, Marion E. | Coll. | Wasco |
| McLagan, Eva C. | H.E. | Tangent |
| McNiel, Myrtle | P.E. | Portland |
| Maag, Esther | P.E. | Salem |
| Markle, Loren R. | Agri. | St. Louis |
| Marsh, Lee D. | Coll. | Aurora |
| Marsh, Thelma | Coll. | Albany |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|-------------------------|---------------|---------------------|
| Martin, Rose | Coll. | Myrtle Creek |
| Maxwell, William D. | Agri. | Baker |
| Mecklin, Mrs. H. | P.E. | Corvallis |
| Michaels, Hollis | H.E. | Myrtle Creek |
| Middlekauff, Ruth Helen | H.E. | Corvallis |
| Miller, Emily M. | H.E. | Portland |
| Miller, John C. | I.A. | Brownsville |
| Milner, John Matt | Agri. | Lacey, Wash. |
| Milner, Levi A. | Agri. | Hubbard |
| Miller, Marjorie L. | H.E. | Macieay |
| Miller, Milton Marion | Agri. | Corvallis |
| Misner, Barney G. | Agri. | Corvallis |
| Mitchell, Annie L. | H.E. | Corvallis |
| Moad, Marshall D. | Agri. | Newberg |
| Moffett, Lloyd T. | Agri. | Corvallis |
| Moore, Maple Dell | Coll. | Clackamas |
| Mooney, Thomas F. | Agri. | Wilbur |
| Moore, Merle | I.A. | Corvallis |
| Moore, Neva | Com. | Corvallis |
| Moreland, Helen M. | H.E. | Corvallis |
| Moyer, Mary E. | Coll. | Corvallis |
| Munson, Florence E. | Coll. | Canby |
| Murray, Albert S. | Coll. | Corvallis |
| Murray, Leola | P.E. | Portland |
| Murray, Nettie L. | Coll. | Falls City |
| Neabeack, Benjamin H. | Agri. | The Dalles |
| Neer, Thomas E. | Agri. | Turner |
| Neilson, Ida Isabell | P.E. | North Bend |
| Nelson, Bernice I. | Coll. | Corvallis |
| Nelson, Lewis H. | I.A. | Umapine |
| Newton, Dorothy | Com. | Corvallis |
| Nichols, A. R. | I.A. | Corvallis |
| Nichols, Louise | P.E. | Corvallis |
| North, David Starr | I.A. | Corvallis |
| Norton, Ruth Ulysia | Coll. | Corvallis |
| O'Conner, Viola | H.E. | Corvallis |
| Oderkirk, Burton | Coll. | Fargo, N. Dakota |
| O'Farrell, Mary E. | P.E. | Eugene |
| Olsen, Elmer | Agri. | Salem |
| Olsen, Mrs. Norma | Coll. | Philomath |
| Orne, Roland Ralph | I.A. | Nookiock, Wash. |
| O'Ryan, James W. | Agri. | Hood River |
| Parker, Helen A. | Coll. | Portland |
| Parkinson, Elizabeth | Music | Corvallis |
| Paroni, Anthony | I.A. | Berkeley, Cal. |
| Patterson, Vincent M. | Agri. | Eugene |
| Patton, Lyman W. | Com. | Corvallis |
| Peil, Glen Wm. | I.A. | Corvallis |
| Patton, James | Music | Corvallis |
| Peil, Fay Elizabeth | H.E. | Corvallis |
| Peterson, Ivy Cecil | Coll. | Beaverton |
| Petty, Ercel A. | Coll. | McMinnville |
| Pfeiffer, C. F. | Com. | Albany |
| Phillippi, Leora | Coll. | Arlington |
| Phillips, Harrison N. | Coll. | Corvallis |
| Pierce, Lucille | H.E. | La Grande |
| Poley, Evangeline C. | H.E. | Ashland |
| Porter, Stephen D. | Agri. | Sheridan |
| Prather, Marie Alma | Coll. | Corvallis |
| Prather, Mildred | Coll. | Corvallis |
| Pratt, Ada Kingsley | Com. | Albany |
| Presby, Grace Louise | H.E. | Salem |
| Price, Gladys B. | H.E. | Oakland |
| Prindle, Susan Esther | Coll. | Corvallis |
| Prindle, Vera E. | Com. | Corvallis |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|--------------------------|---------------|---------------------|
| Pringle, John R. | Agri. | Mist |
| Pritchett, Jesse Hobson | Coll. | Carlton |
| Puckett, Ethel | Coll. | Klamath Falls |
| Quimby, Ethel Annette | H.E. | Halsey |
| Rankin, William J. | Coll. | Boise, Idaho |
| Ray, Guy | Agri. | Corvallis |
| Redmond, Elizabeth | H.E. | Portland |
| Reiman, Elmer E. | I.A. | Corvallis |
| Rice, Beatrice | Coll. | Myrtle Creek |
| Rice, Emmy | P.E. | Stockton, Cal. |
| Rice, Philip R. | Com. | Walla Walla, Wash. |
| Richard, Edna Lyle | Coll. | Corvallis |
| Richards, Charles C. | Agri. | Cambridge, Idaho |
| Rider, Elizabeth | H.E. | Salem |
| Robinson, Jennings B. | Agri. | Corvallis |
| Rodolf, Helen H. | P.E. | Corvallis |
| Romtvedt, Alvchild | H.E. | Toledo |
| Ruby, Bessie | Coll. | McMinnville |
| Ruth, Percy V. | Com. | Corvallis |
| Ryder, Agnes Jane | H.E. | Corvallis |
| Sanborn, Ethel Ida | Agri. | Eugene |
| Sandon, Grace Rea | Com. | Corvallis |
| Sandon, Mrs. M. | H.E. | Corvallis |
| Scharpf, Clara | Coll. | Portland |
| Schneider, Nicholas | Com. | Portland |
| Schultz, Mabel Maryan | P.E. | Forest Grove |
| Schultz, Otto A. | Coll. | Oregon City |
| Schutt, Marjorie | Coll. | Corvallis |
| Scott, Jennie Ritchie | P.E. | Corvallis |
| Seawell, John L. | Agri. | Milton |
| Seeley, Hazel | H.E. | Independence |
| Selt, Nora | H.E. | Camas, Wash. |
| Shawe, Hamilton B. | Agri. | Portland |
| Shelly, Marjorie L. | H.E. | Everett, Wash. |
| Shelton, Alva B. | Com. | Coquille |
| Sherwood, Lucy M. | H.E. | Devitt |
| Sherfy, Alma | Coll. | Corvallis |
| Sherfy, Vesta Elizabeth | H.E. | Corvallis |
| Shoenberger, Mrs. H. | P.E. | Corvallis |
| Silverson, Lawrence J. | Agri. | Monmoun |
| Simmions, V. Esther | H.E. | Fresno, Cal. |
| Simpson, Mrs. Dorothy P. | H.E. | Corvallis |
| Sims, Lona | H.E. | Corvallis |
| Sims, Marion F. | Coll. | Corvallis |
| Skov, Maren Julia | H.E. | Ferndale, Cal. |
| Slade, Beulah | Com. | Corvallis |
| Smith, George Andrew | Agri. | Corvallis |
| Smith, Hiram Chester | I.A. | Redmond |
| Smith, John W. L. | Agri. | Corvallis |
| Smith, Mae | Coll. | Corvallis |
| Smith, Phalle E. | H.E. | Corvallis |
| Smith, Presley H. | Agri. | Corvallis |
| Smith, Stephen E. | Agri. | Bozeman, Mont. |
| Son, Mae | Coll. | Corvallis |
| South, Mrs. Charles | H.E. | Corvallis |
| Steel, Jean E. | I.A. | Eugene |
| Strahan, Kay Cleaver | P.E. | Portland |
| Strong, Gladys | H.E. | San Rafael, Cal. |
| Sturgill, Janathan J. | Coll. | Stanfield |
| Thayer, John Alden | Coll. | Rainier |
| Thomas, Mabel A. | P.E. | Montague, Cal. |
| Thompson, Josephine S. | Coll. | Seaside |
| Thompson, Mary Emma | P.E. | Marshfield |
| Tichner, Edith Elora | H.E. | Corvallis |
| Tichner, Susan A. | Coll. | Corvallis |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|----------------------------------|---------------|---------------------|
| Tinkham, Catherine | H.E. | Corvallis |
| Todd, Mrs. Margaret | H.E. | Corvallis |
| Townsend, Annie | H.E. | Corvallis |
| Townsend, Mary | H.E. | Salem |
| Truesdell, Charles M. | Agri. | Corvallis |
| Trulove, Bessie | Com. | Corvallis |
| Turner, George Guy | Agri. | Yakima, Wash. |
| Turnipseed, David B. | Agri. | Twin Falls, Idaho |
| Tyler, Herbert D. | I.A. | Brownsville |
| Underwood, Edward Franklin | Coll. | Corvallis |
| Underwood, Faith Young | H.E. | Corvallis |
| Valson, John L. | Agri. | Port Angeles, Wash. |
| Varney, Lois | H.E. | Corvallis |
| Vestal, Mrs. Eudora H. | H.E. | Corvallis |
| Voorheis, Claude | I.A. | Corvallis |
| Wade, Alva R. | Agri. | Oregon City |
| Wade, Wythel | Coll. | Island City |
| Waggoner, Paul L. | Agri. | Sawyer, Idaho |
| Wallace, Mrs. Edith | H.E. | Corvallis |
| Ware, Lila Maude | Agri. | Lebanon |
| Warren, Almon A. | Agri. | Elma, Wash. |
| Watenpugh, Harold Leroy | Agri. | Corvallis |
| Watson, Marie | Coll. | Corvallis |
| West, Frances Elizabeth | H.E. | Portland |
| Whittemore, Hopewell | H.E. | Corvallis |
| Whittemore, Mary Alice | H.E. | Corvallis |
| Willard, Frances Elizabeth | H.E. | Corvallis |
| Willert, Mrs. F. A. | H.E. | Corvallis |
| Williams, Eva | H.E. | Dexter |
| Winters, Ray H. | Agri. | Eugene |
| Wolfken, Dorothea M. | P. E. | Corvallis |
| Wood, Blanche L. | P. E. | Corvallis |
| Wood, Clarence E. | Coll. | Dryad, Wash. |
| Wood, Le Velle | H. E. | Corvallis |
| Woodward, Eleanor | P. E. | Portland |
| Woodward, Mary | Coll. | Portland |
| Wright, Blanche | Com. | Brownsville |
| Wright, Frances M. | H.E. | Corvallis |
| Yexley, Myrle | Coll. | Oregon City |
| Young, Benjamin F. | Agri. | Shelley, Idaho |
| Young, Ethel M. | H. E. | Portland |
| Young, Vida | H.E. | Salem |
| Young, Vivian | H.E. | Salem |

CLUB BOYS AND GIRLS ATTENDING SUMMER SESSION

JUNE 21 TO JULY 2, 1920

| <i>Name</i> | <i>Address</i> |
|-----------------------------|-----------------------|
| Biberg, Lillie | Portland, Oregon |
| Black, Maurice | Reedsport, Oregon |
| Bliss, Arthur | Gresham, Oregon |
| Bloom, Bessie | Silverton, Oregon |
| Bloom, Emmaline | Silverton, Oregon |
| Boswell, Katherine | Vale, Oregon |
| Fiala, Lila | Oregon City, Oregon |
| Gienger, Marie | Tillamook, Oregon |
| Gienger, Pauline | Tillamook, Oregon |
| Goetz, Robert | Multnomah, Oregon |
| Gribbs, James | Portland, Oregon |
| Gustafson, Amy | Gresham, Oregon |
| Hartley, Golda | Kent, Oregon |
| Heft, Earl | Clackamas, Oregon |
| Hickox, Averett | Ontario, Oregon |
| Holbrook, Floyd | Corvallis, Oregon |
| Jarl, Vernie | Boring, Oregon |
| Klinehan, Gladys | Tillamook, Oregon |
| Lehman, Lena | Oregon City, Oregon |
| McMillian, Grant | Gresham, Oregon |
| May, Tollie | Morrill, Oregon |
| Melindi, Ruth | Portland, Oregon |
| Nelson, Lillie | Gresham, Oregon |
| Pagenkopf, Lois | Oregon City, Oregon |
| Pettit, Margaret | Summit, Oregon |
| Rindflesch, Wilhemina | Oregon City, Oregon |
| Russell, Charlie | Waconda, Oregon |
| Schmidt, Garland | Corvallis, Oregon |
| Simms, Thelma | Oregon City, Oregon |
| Sykes, Helen | Corvallis, Oregon |
| Sykes, Nathan | Corvallis, Oregon |
| Sykes, Vera | Corvallis, Oregon |
| Thompson, Viola | Dufur, Oregon |
| Watson, Elizabeth | Portland, Oregon |
| West, Dale | Klamath Falls, Oregon |
| Wilson, Martha | Kent, Oregon |
| Zenger, Adolph | Gresham, Oregon |
| Zenger, Albert | Gresham, Oregon |

SUMMARIES OF ENROLLMENT

MEN AND WOMEN CLASSIFIED AS TO CURRICULUM

(All duplicates excluded)

1920-21

| Course | Men | Women | Total |
|--|-------|-------|-------|
| Agriculture | 892 | 8 | 900 |
| Commerce | 490 | 338 | 828 |
| Engineering and Industrial Arts | 749 | ..... | 749 |
| Forestry and Logging Engineering | 101 | ..... | 101 |
| Home Economics ..... | ..... | 589 | 589 |
| Mines | 76 | ..... | 76 |
| Chemical Engineering | 63 | 2 | 65 |
| Pharmacy | 131 | 59 | 190 |
| Optional | 19 | 41 | 60 |
| Music | 29 | 67 | 96 |
| Summer School | 179 | 310 | 489 |
| Short Courses | 513 | 514 | 1027 |
| Grand Total | 3242 | 1928 | 5170 |

CLASSIFIED AS TO RESIDENCE

(All duplicates excluded)

States and Territories:

| | |
|----------------------------|------|
| Oregon | 4068 |
| Alabama | 2 |
| Alaska | 6 |
| Arizona | 3 |
| Arkansas | 2 |
| California | 324 |
| Colorado | 5 |
| District of Columbia | 3 |
| Florida | 1 |
| Hawaii | 1 |
| Idaho | 144 |
| Illinois | 14 |
| Indiana | 5 |
| Iowa | 17 |
| Kansas | 12 |
| Massachusetts | 3 |
| Michigan | 4 |
| Minnesota | 12 |

| | | |
|--------------------------|-----|------|
| Missouri | 12 | |
| Montana | 36 | |
| Nebraska | 6 | |
| Nevada | 3 | |
| New Hampshire | 1 | |
| New Jersey | 7 | |
| New Mexico | 1 | |
| New York | 8 | |
| North Dakota | 7 | |
| Ohio | 6 | |
| Oklahoma | 5 | |
| Pennsylvania | 4 | |
| Philippine Islands | 14 | |
| Rhode Island | 2 | |
| South Dakota | 4 | |
| Tennessee | 1 | |
| Texas | 4 | |
| Utah | 2 | |
| Virginia | 2 | |
| Washington | 370 | |
| West Virginia | 2 | |
| Wisconsin | 4 | |
| Wyoming | 1 | 1060 |

Foreign Countries:

| | | |
|-------------------|----|----|
| Brazil | 1 | |
| Canada | 17 | |
| Chile | 1 | |
| China | 1 | |
| Denmark | 3 | |
| England | 3 | |
| India | 1 | |
| Germany | 1 | |
| Ireland | 1 | |
| Palestine | 1 | |
| Russia | 3 | |
| Scotland | 1 | |
| Serbia | 1 | |
| Spain | 1 | |
| Sweden | 4 | |
| Switzerland | 2 | 42 |

| | | |
|-----------------|--|------|
| Net Total | | 5170 |
|-----------------|--|------|

COMPARATIVE ENROLLMENT

| | | | |
|---------------|-----|---------------|-------|
| 1888-89 | 97 | 1904-05 | 680 |
| 1889-90 | 151 | 1905-06 | 735 |
| 1890-91 | 201 | 1906-07 | 883 |
| 1891-92 | 208 | 1907-08 | 1,156 |
| 1892-93 | 282 | 1908-09 | 1,352 |
| 1893-94 | 240 | 1909-10 | 1,591 |
| 1894-95 | 261 | 1910-11 | 1,778 |
| 1895-96 | 397 | 1911-12 | 2,868 |
| 1896-97 | 316 | 1912-13 | 2,314 |
| 1897-98 | 336 | 1913-14 | 2,435 |
| 1898-99 | 388 | 1914-15 | 4,176 |
| 1899-00 | 405 | 1915-16 | 3,265 |
| 1900-01 | 436 | 1916-17 | 3,798 |
| 1901-02 | 448 | 1917-18 | 3,453 |
| 1902-03 | 541 | 1918-19 | 4,086 |
| 1903-04 | 530 | 1919-20 | 4,865 |
| | | 1920-21 | 5,170 |

The great difference in the total enrollment for the two years, 1910-11 and 1911-12, was due largely to the increase in the number of students registered for the winter short courses in Agriculture. The increase in the number of regular students in the 36-week courses was 24 percent.

The decrease in the number of students in 1912-13 from the year 1911-12 is due to the decrease in the short course registration. The increase in the number of regular students in the 36-week courses was 19 percent.

INDEX

A

| | |
|--|--------------------------------------|
| Accounting | 152, 153, 154, 156, 157, 158, 430 |
| Accredited Farm Work | 111 |
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With List of Students for 1921-22

ERRATA

Beginning September 1, 1922, students not residents of Oregon registering for the first time will be charged a tuition fee of \$35.00 a term or \$105.00 a year. Students entering the institution before September 1, 1921, are not subject to non-resident tuition fees. Non-resident students who entered the College after September 1, 1921, but before September 1, 1922, will continue to pay tuition fee of \$20.00 a term or \$60.00 a year. Non-resident students who served in the recent World War and who are required to pay non-resident tuition will be charged one-half the regular fee.

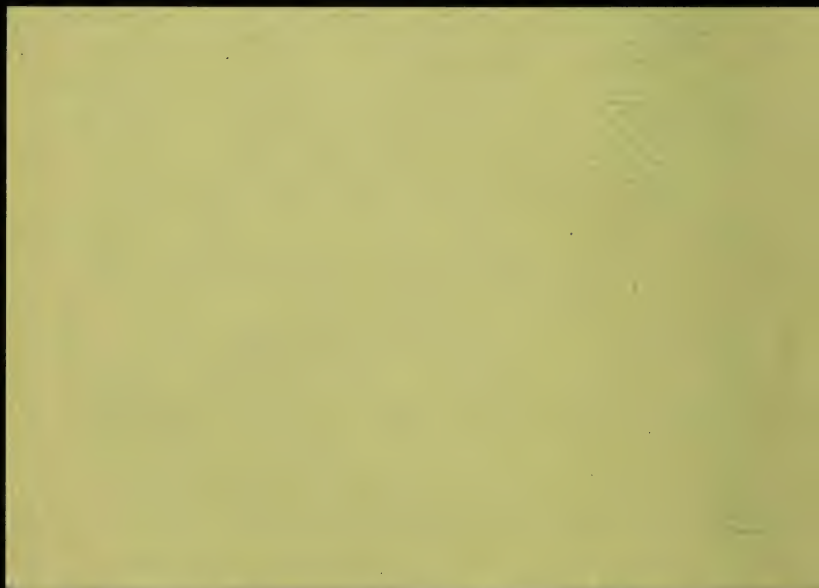
* * * * *

Vocational courses in the School of Engineering including the vocational curriculum in Mechanic Arts on page 235, the courses in Industrial Arts 21 to 87 inclusive, on pages 256-259, and courses in Mechanical Engineering 11, 12, 13, page 266, will not be given during the school year 1922-23.

The gymnasium fee for men listed under "General Fees" on page 60 should be \$1.75. An additional seventy-five cents is required as a towel deposit refundable when the towel is returned at the close of the term.

CORVALLIS, OREGON

O. A. C. PRESS
1922



General Catalogue

1922-23

With List of Students for 1921-22



CORVALLIS, OREGON

O. A. C. PRESS
1922

OREGON AGRICULTURAL COLLEGE

The work of the Oregon Agricultural College is organized into three main divisions: Resident Instruction, Experiment Station, and Extension Service.

I.—THE RESIDENT INSTRUCTION DIVISION includes

The School of Agriculture (B.Sc., M.S. Degrees)

With departments of Animal Husbandry, Dairy Husbandry, Farm Crops, Farm Management, Farm Mechanics, Horticulture (including Pomology, Vegetable Gardening, Landscape Gardening, Floriculture, and Horticultural Products), Poultry Husbandry, Soils, and Veterinary Medicine.

The School of Basic Arts and Sciences

With departments of Art and Rural Architecture, Bacteriology, Botany and Plant Pathology, Chemistry, English Language and Literature, Entomology, History, Mathematics, Modern Languages, Physics, Public Speaking and Dramatics, and Zoology and Physiology.

The School of Commerce (B.Sc. Degree)

With departments of Business Administration, Economics and Sociology, Office Training and Stenography, and Political Science.

The School of Engineering and Mechanic Arts (B.Sc., C.E., E.E., M.E. Degrees)

With departments of Civil Engineering, Electrical Engineering, Highway Engineering, Industrial Arts, Mechanics and Materials, and Mechanical Engineering.

The School of Forestry (B.Sc., M.S. Degrees)

With departments of General Forestry and Logging Engineering.

The School of Home Economics (B.Sc., M.S. Degrees)

With departments of Home Economics Education, Household Administration, Household Art, Household Science, and Institutional Management.

The School of Mines (B.Sc. Degree)

With departments of Geology, Metallurgy, and Mining Engineering.

The School of Pharmacy (B.Sc., Ph.C., Ph.G. Degrees)

The School of Vocational Education (B.Sc. Degree)

With departments of Agricultural Education, Commercial Education, Education, Home Economics Education, Industrial Education, and Psychology.

The Department of Chemical Engineering (B.Sc. Degree)

The Department of Military Science and Tactics (B.Sc. Degree)

Including Reserve Officers Training Corps in Infantry, Field Artillery, Engineers, Motor Transport, and Cavalry.

The General Departments

Industrial Journalism, Library Practice, Physical Education for Men, and Physical Education for Women.

The School of Music (Music Diploma)

With departments of Harmony, Theory, Voice, Piano, Violin, Pipe-organ, and Orchestra.

The Short Sessions

Including the Summer Session and Winter Short Courses.

II.—THE EXPERIMENT STATION DIVISION includes

The Home Station, at Corvallis

The Eastern Oregon Branch Station, at Union

The Sherman County Dry-Farm Branch Station, at Moro

The Umatilla Branch Station, at Hermiston

The Southern Oregon Branch Station, at Talent

The Harney Valley Branch Station, at Burns

The John Jacob Astor Branch Station, at Astoria

The Hood River Branch Station, at Hood River

III.—THE EXTENSION SERVICE DIVISION includes

County Agricultural Work

Home Demonstration Work

Boys' and Girls' Club Work

Extension Specialist Work

In Animal Husbandry; Dairying; Drainage and Irrigation; Farm Crops; Farm Management; Field Entomology, Plant Pathology, and Bacteriology; Field Horticulture; Poultry Husbandry; Rodent Control; Rural Organization and Markets.

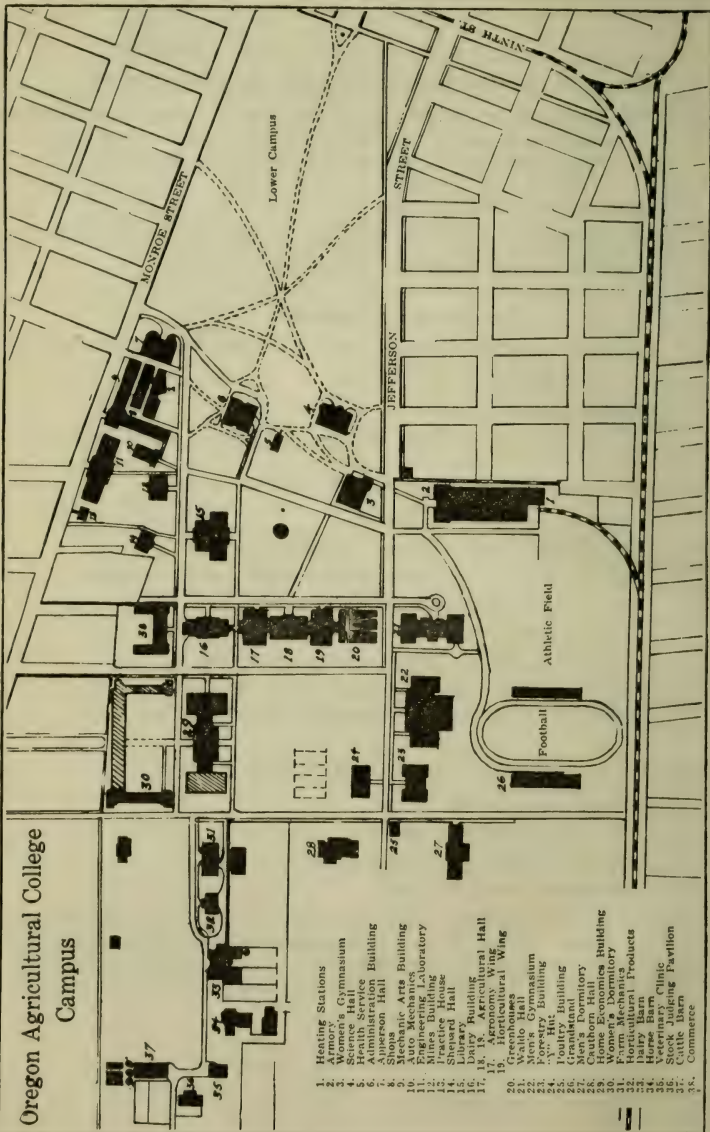
Extension Schools and Meetings

Extension Publications

Extension Lectures

Advisory Correspondence

Oregon Agricultural College Campus



1. Heating Stations
2. Armory
3. Men's Gymnasium
4. Women's Gymnasium
5. Health Service
6. Administration Building
7. Shogerson Hall
8. Mechanical Arts Building
9. Auto Mechanics
10. Business Laboratory
11. Mining Building
12. Practice House
13. Shepard Hall
14. Dairy Building
15. Dairy Building
16. Dairy Building
17. Agronomy Wing
18. Agricultural Hall
19. Agricultural Wing
20. Greenhouses
21. Waldo Hall
22. Men's Gymnasium
23. Poultry Building
24. Y. M. Hut
25. Poultry Building
26. Grandstand
27. Cautern Hall
28. Veterinary Clinic
29. Home Economics Building
30. Women's Dormitory
31. Men's Dormitory
32. Horticultural Products
33. Dairy Barn
34. Stock Judging Pavilion
35. Veterinary Clinic
36. Stock Judging Pavilion
37. Cattle Barn
38. Commerce

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COLLEGE CALENDAR

1922

| | |
|---|---|
| SEPTEMBER 18, 19, <i>Monday, Tuesday</i> | Registration |
| SEPTEMBER 20, <i>Wednesday</i> | |
| ..... | Recitations begin; required English examination |
| OCTOBER 6, <i>Friday</i> | Meeting of Board of Regents |
| NOVEMBER 11, <i>Saturday</i> | Armistice Day; holiday |
| NOVEMBER 30, DECEMBER 1, 2, <i>Thursday, Friday, Saturday</i> | |
| ..... | Thanksgiving recess |
| DECEMBER 16, <i>Saturday</i> | First term ends; Christmas recess begins |

1923

| | |
|---|--|
| JANUARY 2, 3, <i>Tuesday, Wednesday</i> | Second term registration |
| JANUARY 3, <i>Wednesday</i> | Meeting of Board of Regents |
| JANUARY 4, <i>Thursday</i> | Recitations begin |
| FEBRUARY 22, <i>Thursday</i> | Washington's birthday; holiday |
| MARCH 17, <i>Saturday</i> | Second term ends; spring vacation begins |
| MARCH 26, 27, <i>Monday, Tuesday</i> | Third term registration |
| MARCH 28, <i>Wednesday</i> | Recitations begin |
| APRIL 4, <i>Wednesday</i> | Meeting of Board of Regents |
| MAY —, | Military Inspection Day |
| MAY 30, <i>Wednesday</i> | Decoration Day; holiday |
| JUNE 2, <i>Saturday</i> | Senior Class Day, Alumni Reunion |
| JUNE 3, <i>Sunday</i> | Baccalaureate Sermon |
| JUNE 4, <i>Monday</i> | Fifty-fourth Annual Commencement |
| JUNE 9, <i>Saturday</i> | Third Term Ends |
| JUNE 18, <i>Monday</i> | Summer Session begins |
| JULY 4, <i>Wednesday</i> | Independence Day; holiday |
| JULY 28, <i>Saturday</i> | Summer Session ends |

(A calendar of the various short courses will be mailed on request.)

BOARD OF REGENTS

OFFICERS

| | |
|--|-----------|
| HON. J. K. WEATHERFORD, President..... | Albany |
| HON. N. R. MOORE, Secretary..... | Corvallis |
| HON. B. F. IRVINE, Treasurer | Portland |

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| | |
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| HON. SAM A. KOZER, Secretary of State..... | Salem |
| HON. J. A. CHURCHILL, Superintendent of Public Instruction..... | Salem |
| HON. CHARLES E. SPENCE, Master of State Grange..... | Oregon City |

APPOINTED BY THE GOVERNOR

| | Term expires |
|-----------------------------|-----------------|
| HON. B. F. IRVINE..... | Portland, 1924 |
| HON. N. R. MOORE | Corvallis, 1924 |
| HON. JEFFERSON MYERS..... | Portland, 1924 |
| HON. J. K. WEATHERFORD..... | Albany, 1927 |
| HON. C. L. HAWLEY | Portland, 1927 |
| HON. M. S. WOODCOCK | Corvallis, 1927 |
| HON. WALTER M. PIERCE | La Grande, 1929 |
| HON. H. VON DER HELLEN..... | Wellen, 1929 |
| HON. GEO. M. CORNWALL..... | Portland, 1929 |

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Regents WOODCOCK, MYERS, and VON DER HELLEN

COLLEGE COMMITTEE

Regents CHURCHILL (Chairman), KOZER, and MOORE

STATION COMMITTEE

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and OLCOTT

FORESTRY COMMITTEE

Regents CORNWALL (Chairman), OLCOTT, and WOODCOCK

EXTENSION COMMITTEE

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MOORE

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Regents WEATHERFORD, WOODCOCK, and MOORE

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Dean of the School of Home Economics.

CHARLES EDWARD NEWTON, E.M.,
Dean of the School of Mines.

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Dean of the School of Basic Arts and Sciences;
Director of the Summer Session.

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Director of the Extension Service.

JAMES TERTIUS JARDINE, B.Sc.,
Director of the Experiment Station.

MARY ANNETTE ROLFE, M.A.,
Dean of Women.

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Executive Secretary.

* The arrangement is in order of seniority of appointment.

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* The College Council is composed of members of the Administrative Council and other members of the staff with the rank of professor, associate professor, or assistant professor. The arrangement is alphabetical.

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and Tactics
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versity of California.
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in charge of Motor Transport Unit
Captain, Quartermaster Corps (Motor Transport), United States
Army.
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Oregon Agricultural College, B.Sc.
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Forest Entomologist
University of New Mexico; Oregon Agricultural College, B.Sc.,
M.S.; Iowa State College.
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South Dakota State College, B.Sc.; Iowa State College, M.S.

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Bacteriologist, Experiment Station
Michigan Agricultural College; Massachusetts Agricultural Col-
lege; University of Berne (Switzerland); Oregon Agricultural Col-
lege, B.Sc., M.S.
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Terre Haute (Indiana) State Normal School; Purdue University.
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sin, B.Sc.
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Director of Women's Dormitories
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Nurses (San Francisco); Macdonald Institute (Guelph, Ontario).
- WILLIAM VERNAL HALVERSEN.....Assistant Professor of Bacteriology;
Assistant Bacteriologist, Experiment Station
Utah Agricultural College, B.Sc.; Iowa State College, M.S.
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State College of Washington, B.Sc.; Iowa State College.
- CUSHMAN HARTWELL.....Assistant Professor of Military Science and
Tactics; in charge of Cavalry Unit
University of Pennsylvania; Major, Cavalry, United States Army.
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Horticulturist (Physiology), Experiment Station
Friends University, A.B.; University of Chicago, Ph.D.
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Captain, Adjutant General's Department, Officers' Reserve Corps,
United States Army; (Master Sergeant, United States Army, Re-
tired).

- MORRIS HERBERT.....Assistant Professor of Military Science and
Tactics; Acting Quartermaster, Adjutant, and Personal Adjutant
Major, United States Army, Retired.
- ROY RENO HEWITT.....Assistant Professor of Government and
Business Law
Willamette University, Ph.B., LL.B.; Clark University, M.A.
Member of Oregon Bar.
- ERNEST CHARLES HOBBS.....Superintendent of College Press
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Downer College; Oberlin College; Holmes Business College;
Oregon Agricultural College, B.Sc.
- JOHN B. HORNER.....Professor of History
Philomath College, B.Sc., M.S., Litt.D.; Whitman College; Blue
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University; University of California.
- CALVIN JEHU HURD.....Assistant County Agent Leader
Hilton (Virginia) State Normal School; University of Kansas.
- GEORGE ROBERT HYSLOP.....Professor of Farm Crops;
Farm Crops Specialist, Experiment Station
University of Indiana; Ohio State University, B.Sc.; Cornell
University.
- EDWIN RUSSELL JACKMAN.....Extension Specialist in Farm Crops
Montana State College; Oregon Agricultural College, B.Sc.
- ELMER POLIC JACKSON.....Superintendent of Buildings
Oregon Agricultural College, B.Sc.; Armour Institute of Technol-
ogy; University of Chicago; Columbia University.
- NEAL CLEMENT JAMISON.....Extension Specialist in Dairying
Oregon Agricultural College, B.Sc.; College of Puget Sound.
- ALMA GRACE JOHNSON.....Professor of Household Administration
Purdue University; Columbia University, B.Sc.
- CHARLES LESLIE JOHNSON.....Professor of Mathematics
Oregon Agricultural College, B.Sc.; Harvard University; Uni-
versity of Chicago.
- ALBERT MONMOUTH JONES.....Assistant Professor of Military Science
and Tactics
Captain of Infantry, United States Army.
- ROY CARROLL JONES.....Associate Professor of Dairy Production
University of Vermont, B.Sc.
- SHIRLEY JONES.....Professor of Agricultural Chemistry; Experiment
Station Chemist
University of California, B.Sc.; Cornell University, M.S.A.

- GEORGE WALLACE KABLE.....Extension Specialist in Soils
University of Washington; University of California, B.Sc.;
University of Nebraska.
- WALLACE LADUE KADDERLY.....Assistant County Agent Leader
Oregon Agricultural College, B.Sc.
- FREDERICK CHARLES KENT.....Associate Professor of Mathematics
University of Michigan, A.B.; University of Colorado; Univer-
sity of Berlin (Germany).
- *FRANK HEIDTMAN LATHROP.....Associate Professor of Entomology;
Associate Entomologist, Experiment Station
Clemson College, B.Sc.; Ohio State University, M.S.
- WILLIAM EVANS LAWRENCE.....Associate Professor of Plant Pathology
Earlham College, B.Sc.; University of Chicago.
- ERWIN BERTRAN LEMON.....Registrar
Oregon Agricultural College, B.Sc.
- LUCY MAY LEWIS.....Librarian
Pomona College; University of Illinois, A.B., B.L.S.
- HARRY ARTHUR LINDGREN.....Extension Specialist in Animal Husbandry
Oregon Agricultural College, B.Sc.
- DOUGLAS CLERMONT LIVINGSTON.....Professor of Geology
McGill University, B.Sc.; Stanford University.
- CLAYTON LEWIS LONG.....Extension Specialist in Horticulture
Ohio State University, B.Sc., M.S.
- LESTER LOVETT.....Professor of Entomology; Entomologist,
Experiment Station
Oklahoma Agricultural and Mechanical College, B.Sc.
- ALFRED GUNN LUNN.....Professor of Poultry Husbandry; Poultry
Husbandman, Experiment Station
Oregon Agricultural College, B.Sc.
- JESSIE DUNLAVY McCOMB.....State Leader of Home Demonstration
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University of Nebraska, A.B.; Oregon Agricultural College, M.S.;
Columbia University, A.M.
- CHARLES JARVIS McINTOSH.....Assistant Professor of Industrial
Journalism; Agricultural Press Editor
Oregon Normal School, B.S.D., B.Sc.
- MARION BERTICE MCKAY.....Assistant Plant Pathologist; Associate
Plant Pathologist, Experiment Station
Oklahoma Agricultural and Mechanical College, B.Sc.; University
of Wisconsin, M.S.

*On leave of absence.

- FARLEY DOTY McLOUTH.....Professor of Art
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Hood River

Oregon Agricultural College, B.Sc.

LEROY CHILDS, Superintendent, Hood River Branch Station, Hood River
Stanford University, A.B.

HAROLD KARL DEAN.....Superintendent, Umatilla Branch Station,
Hermiston

Oregon Agricultural College, B.Sc.

ALBERT EDWARD ENGBRETSON.....Superintendent, John Jacob Astor
Branch Station, Astoria

Oregon Agricultural College, B.Sc.

FRANK CHARLES REIMER.....Superintendent, Southern Oregon Branch
Station, Talent

Michigan Agricultural College, B.Sc. ; University of Florida, M.S.

OBIL SHATTUCK, Superintendent Harney Valley Branch Station, Burns
Oregon Agricultural College, B.Sc., M.S.

DAVID EDMUND STEPHENS.....Superintendent, Sherman County Dry-
Farm Branch Station, Moro

Utah Agricultural College, B.Sc. ; University of California.

ROBERT WITHYCOMBE.....Superintendent, Eastern Oregon Branch
Station, Union

Oregon Agricultural College, B.Sc.

COUNTY AGRICULTURAL AGENTS

HARRY GRANT AVERY.....Union County
Albion (Idaho) Normal School ; Kansas State Agricultural College.

FRED BENNION.....Umatilla County
University of Utah, A.B. ; University of Pennsylvania ; Montana
State College.

LEROY BREITHAUPT.....Malheur County
Oregon Agricultural College, B.Sc.

CYRUS RIPLEY BRIGGS.....Benton County
Oregon Agricultural College, B.Sc.

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| CLAUDE CLARK CALKINS..... | Morrow County |
| Oregon Agricultural College, B.Sc. | |
| PAUL CARPENTER..... | Polk County |
| University of Minnesota, B.Sc. | |
| WALTER SQUIRE CARPENTER..... | Sherman County |
| Oregon Agricultural College, B.Sc. | |
| CLAUDE CLIFTON CATE..... | Jackson County |
| Oregon Agricultural College, B.Sc. | |
| BENHAMIC COONEY..... | Douglas County |
| University of Nebraska, B.Sc. | |
| JOHN EDWARD COOTER..... | Lincoln County |
| Oregon Agricultural College, B.Sc. | |
| CHARLES WARREN DAIGH..... | Wasco County |
| Oregon Agricultural College, B.Sc. | |
| SYLVESTER BENJAMIN HALL..... | Multnomah County |
| Oregon Agricultural College, B.Sc. | |
| CHARLES ALBERT HENDERSON..... | Klamath County |
| Oregon Agricultural College, B.Sc. | |
| ARNOLD CYRUS HEYMAN..... | Linn County |
| Heidelberg University (Ohio), A.B. ; Chicago Theological Semi- nary, B.D. | |
| WALTER ARMAND HOLT..... | Clackamas County |
| State College of Washington, B.Sc. | |
| FREDERICK CLARENCE HOLIBAUGH..... | Assistant County Agent, Jackson County |
| HERBERT BODOLLET HOWELL..... | Josephine County |
| Oregon Agricultural College, B.Sc. | |
| DWIGHT LYMAN JAMISON..... | Deschutes County |
| Oregon Agricultural College, B.Sc. | |
| ELVIN WINFIELD McMINDES..... | Clatsop County |
| Oregon Agricultural College, B.Sc. | |
| OVID McWHORTER..... | Washington County |
| State College of Washington, B.Sc. | |
| LLOYD ARTHUR MOSS..... | Assistant County Agent, Jackson County |
| Oregon Agricultural College, B.Sc. | |
| WILLIAM DOUGLAS PINE..... | Tillamook County |
| Oregon Agricultural College, B.Sc. | |
| WILLIAM LEROY TEUTSCH..... | Lake County |
| Oregon Agricultural College, B.Sc. | |

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| WILLIAM BENJAMIN TUCKER..... | Crook County |
| Lewiston (Idaho) Normal School; University of Illinois. | |
| IRA PARKER WHITNEY..... | Lane County |
| Oregon Agricultural College, B.Sc. | |

COUNTY HOME DEMONSTRATION AGENTS

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| EVA COMEGYS..... | Benton County |
| Columbia University, B.Sc. | |
| JESSIE AIKEN GRISWOLD..... | Josephine County |
| Milwaukee-Downer College; Columbia University. | |
| FLORENCE ELDORA POOL..... | Jackson County |
| Montana State College, B.Sc. | |
| EDITH GREGORY VAN DEUSEN..... | Umatilla County |
| University of Chicago, Ph.B. | |

COUNTY CLUB AGENTS

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| ETHEL IRENE CALKINS..... | Multnomah County |
| Oregon Normal School. | |
| HOMER MORTON CROSS..... | Douglas County |
| Oregon Agricultural College, B.Sc. | |
| DAVID HONORE KENNEDY..... | Tillamook County |
| Oregon Agricultural College, B.Sc. | |
| THOMAS DEFOREST KIRKPATRICK..... | City of Portland |
| Drake University, B.Sc.; Simpson College; Iowa State College. | |
| ROMNEY SNEDECKER PURCELL..... | Clackamas County |
| Illinois State Normal; Washington Normal. | |
| FRANK WILLIAM SEXTON..... | Klamath County |
| Valparaiso (Indiana) Normal School. | |
| HARRY WELLMAN..... | Malheur County |
| Oregon Agricultural College, B.Sc. | |
| FRED NELSON WILLIAMSON..... | Linn County |
| Oregon Agricultural College, B.Sc. | |

General Information

FOUNDATION AND ENDOWMENT

By an Act of Congress, approved by President Lincoln, July 2, 1862, a grant of land to the amount of thirty thousand acres, or its equivalent, was made to each state in the Union for each senator and representative in Congress to which the state was entitled by the apportionment of the census of 1860. The proceeds under this Act were to constitute a perpetual fund. The principal of this fund was to remain forever undiminished; but the interest arising from the fund was to be inviolably applied by each state that should avail itself of the benefits of the Act to the support and maintenance of a "college where the leading objects shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the states may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life." Ninety thousand acres of land were apportioned to Oregon; and by an Act approved October 9, 1862, the Legislative Assembly of Oregon accepted the provisions of the Congressional law.

HISTORY

The legislature of 1868 provided for the location of the land received under the Act of 1862, and as there were no state colleges in Oregon at that time designated Corvallis College, a private institution in Benton county under the control of the Methodist Episcopal Church, South, as the recipient of the interest on funds to be derived from the sale of this Government land. For a number of years, however, none of the land was sold, and the legislature made small annual appropriations for the support of the institution.

In 1885, the church voluntarily relinquished its claim on the funds of the College, and the State assumed entire control of the institution. The legislature of that year provided for the "permanent location of the State Agricultural College at Corvallis, in Benton county," on the condition that the citizens of said county should, within four years, erect on the "farm containing thirty-five acres in the immediate vicinity of said city, known as the Agricultural College Farm,

brick buildings for the accommodation of said State Agricultural College, at a cost of not less than \$20,000." During the summer of 1887, the cornerstone of the building erected by the citizens of Benton county was laid by the Governor of Oregon amid impressive ceremonies.

This structure, now known as the Administration Building, was the nucleus around which other buildings soon began to cluster, as necessity and growing interest demanded. For a year or two there was ample room; but, as the institution grew, more land was needed and provided, and the institution now owns, as compared with the thirty-five acres originally comprising the campus and grounds, three hundred forty-nine acres; and as compared with one structure, thirty-nine. There has also been a marked increase in the attendance, from ninety-seven to approximately five thousand students. Thirty years ago, most of the students came from Benton and neighboring counties. Today, every county in Oregon, forty other states, and eighteen foreign countries are represented. The increase in the number of students called for an increase in the number of the faculty. This body, from the number of five in 1884, has grown until it now numbers about two hundred fifty. Other features usually found in connection with progressive educational institutions have grown in equal ratio. The curricula have been strengthened, the standards, both for entrance and graduation, have been advanced, organization has kept pace with development, and other improvements have been made from time to time, which have added to the thoroughness and efficiency of the work.

ORGANIZATION

The Oregon Agricultural College is organized into the three grand divisions that characterize the work of the land-grant colleges throughout the country; namely, Resident Instruction, Experiment Station, and Extension Service. Resident Instruction, which includes all work of teaching students at the institution, is the most distinctive feature of the College life. It has always been regarded as of first importance, and will doubtless continue to be so regarded, in spite of the increasing usefulness of extension work. The Experiment Station, through systematic experiments, investigation, and research, is engaged in a search for fundamental truth. Its work is of great importance; for without it, the work of the other two grand divisions would soon become sterile and ineffective. The Extension Service, which is the newest of the three grand divisions of the College, includes all means of imparting the message

of the College to the people in their own communities. It is virtually an effort to make practical and more or less immediate application throughout the State of the available truths worked out by the Experiment Station or used for resident instruction.

GOVERNMENT

Board of Regents. The general government of the College is vested in the Board of Regents, composed of thirteen members, of whom the Governor, Secretary of State, Superintendent of Public Instruction, and the Master of the State Grange are ex-officio members. The nine other members are appointed by the Governor, with the approval of the State Senate, and hold office for a term of nine years. Under a law of the State Legislature passed in 1885 the Board of Regents constitutes a body corporate under the name of "The Board of Regents of the State Agricultural College * * * * with power to sue and be sued and to make contracts," and to enact such regulations as may be necessary for the maintenance and development of the College.

The Administrative Council is composed of the President of the College, the deans of the several schools, the Director of the Experiment Station, the Director of the Extension Service, the Dean of Women, the Professor of Military Science and Tactics, and the Executive Secretary. It is the function of the Administrative Council to consider and determine the larger questions of institutional policy and administration, particularly those affecting more than one school or division, in so far as these are not reserved to the Regents or to the President. Meetings of the Administrative Council may be called by the President or the Executive Secretary.

The College Council is composed of the President of the College and all officers of administration and instruction with the rank of professor, associate professor, or assistant professor. It considers such matters of general policy and institutional interest, particularly those involving the welfare of the institution as a whole, as may be referred to it by the President or the Administrative Council.

The College Staff is composed of all members of the resident and field staffs of the Resident Instruction, Experiment Station, and Extension divisions of the College. Its function is concerned primarily with matters pertaining to the general welfare of the College. Meetings are held at the call of the President.

School Faculties. Each school of the College has its own faculty consisting of the dean, professors, associate professors, assistant professors, and instructors. Depending upon size of staff, school facul-

ties may be further organized into groups of ranking professors or committees for such definite administrative functions as may constitute a feature of school policy. The faculty of each school is organized for the purpose of administrative matters relating solely to its own unit of administration. Meetings of school faculties are held at the call of the dean. The President is ex-officio a member of all school faculties.

Departmental Faculties. Each department has its own faculty, consisting of all members of its staff whether engaged in instructional, research, or extension activities. The departmental faculty considers matters which concern primarily its own internal policy and problems, and meets on call of the head of the department, who is its presiding officer. The school dean is ex-officio a member of all departmental faculties.

The Experiment Station Staff includes the President of the College, the Director of the Experiment Station, the Secretary of the Experiment Station, the heads of the various departments of the School of Agriculture, and all assistants engaged in research and experimental work. The members of this staff are engaged in the investigation of problems encountered in the development of the agricultural interests of the State. They distribute, by correspondence, circulars, and station bulletins, information regarding their investigations.

Extension Staff. The Extension Service Staff includes the President of the College, the Director of Extension Service, the Secretary of Extension Service, the State Leaders and Assistant State Leaders of County Agent, Home Demonstration Agent, and Boys' and Girls' Club work, Extension Field Specialists in Dairying, Animal Husbandry, Home Economics, Farm Crops, Horticulture, Poultry, Farm Management Demonstration, Organization and Markets, and Rodent Control, County Agents, Home Demonstration Agents, and County Club Agents, and members of the Resident Instruction Staff and Experiment Station Staff who assist in Extension work.

The Students. The College does not undertake to prescribe in detail either its requirements or prohibitions. Students are met on a plane of mutual regard and helpfulness. Since the advantages of the institution are provided at public expense, the students are under special obligation to perform faithfully all their duties, not only to the College, but also to the community and to the State. Whenever the deportment of any student is such that his influence is inimical to the interests of the institution, he will be relieved from further attendance.

PURPOSE AND SCOPE

The purpose of the College is to provide, in accordance with the acts of Congress under which it is maintained, a liberal, thorough, and practical education—an education that will afford the training required for efficient service both in different branches of industry and in civic duties. The distinctive technical work covers the three great fields of production, manufacture, and commerce. Special attention is given to the application of science. All the practical work in the laboratories, in the shops, in the orchards, and on the farm, is based on scientific principles. While the industrial or technical work is emphasized, the importance of a thorough general training, of mind development, and of culture, is recognized in all the work of the institution. The object is to meet the demand for a broad and general education, supplemented by special technical training. State and Federal support impose upon the College the obligation of giving training for true citizenship.

The work, therefore, covers a broad field, including technical courses in the different phases of agriculture, forestry, home economics, engineering, mining, commerce, pharmacy, vocational education, and industrial arts; with the necessary training in the basic subjects of mathematics and the natural and physical sciences; and also the general training in language, literature, history, economics, political science, civics, military tactics, and physical education, which constitutes an essential part of a liberal education.

LOCATION

The seat of the Oregon Agricultural College is Corvallis, a city of 6,500 inhabitants, situated at the head of navigation on the Willamette River. As the name implies, it is in the heart of the Willamette Valley, famous for its varied and abundant resources.

It is readily accessible by steam and electric railway from all parts of the State, the main-line Southern Pacific steam trains all connecting with Corvallis, and both the "West-side" Electric and the Oregon Electric trains running into the city. In addition to these north-and-south railways, an east-and-west railway running through the city connects the College with the Cascade Mountains on the east and the ocean, at Newport, on the west. Corvallis has free mail delivery, excellent paved streets, good schools, many churches, attractive residences, a modern sewer system, and a first-class gravity water system supplied from the springs on the slopes of Mary's Peak, the tallest mountain in the Coast Range, sixteen miles to the west.

Situated on high, well-drained land, open to the invigorating sea breeze, Corvallis is one of the most healthful cities in Oregon. The climate is remarkably equable, and severe storms are almost unknown, summer or winter. The average annual temperature for 28 years (1890-1918) is 55.01 degrees Fahrenheit, and the average annual rainfall for the same period is 42.76 inches. The lowest temperatures for the five years 1914 to 1918 were respectively 13, 21, 8, 14, and 19 degrees Fahrenheit in December and January; and the highest temperatures for the same years, in July and August, were respectively, 100, 97, 99, 103, and 99 degrees Fahrenheit.

The glens and gorges of the Coast Range, beginning only a few miles west of Corvallis, the distant splendor of the Cascades, sixty miles to the eastward, with their wealth of trees and the perennially snow-capped peaks—Hood, Jefferson, and the Three Sisters—present a constant panorama of picturesque mountain scenery. With such an environment, Corvallis is an ideal location for a college and a home.

GROUPS AND BUILDINGS

THE COLLEGE GROUNDS

The college grounds comprise three hundred forty-nine acres. That part of the grounds, ninety-one acres in extent, lying immediately about the several buildings, east of Cauthorn Avenue, and usually designated as the lawns and campus, is tastefully planted with both native, exotic, and ornamental trees, shrubs, and herbs. The one hundred forty-three acres used for the farm, garden, and orchard operations are so plotted and planted as to meet the demands of the various lines of work and still conform to a general scheme of landscape embellishment. This portion occupies a slightly elevated and gently undulating site wholly within the western limits of the city of Corvallis. Broad drives and walks traverse the campus in all directions, thus rendering every objective point easily accessible.

In addition to the above plot, one hundred fifteen acres, comprising the College south farm, including the horticultural and poultry tracts, lies just south of the city limits. Approximately eight hundred acres are also under lease for farm purposes.

COLLEGE BUILDINGS

The following brief descriptions will convey a general idea of the principal buildings and the purposes for which they are used.

The Administration Building is a three-story brick structure, 90 by 120 feet, containing recitation rooms and the offices of the Registrar, the Business Manager, and the Director of the School

of Music. Centrally located and on a slight eminence, it commands an unsurpassed view of the campus, the city of Corvallis, and the picturesque Cascades.

Science Hall, situated southeast of the Administration Building, and constructed of gray granite and sandstone, covers a ground space of 85 by 125 feet, has three stories and basement, and contains fifty-five rooms. It is one of the most serviceable buildings on the grounds, and within it are housed the departments of Chemistry and Pharmacy, with their various laboratories, recitation rooms, and lecture halls, together with the offices and laboratories of the Experiment Station chemists.

Agricultural Hall, standing southwest of the Administration Building, is the largest structure on the campus. It is an imposing edifice of brick and sandstone, consisting of the central or administrative section, the north or Agronomy wing, and the south or Horticultural wing.

The central section is 66 by 140 feet, four stories and basement, and contains conveniently arranged and well lighted classrooms, laboratories, and offices. On the first floor are the offices of the Director of the Experiment Station, the Dean of the School of Agriculture, the Director of the Extension Service, the State Leader of County Agriculturists, the State Leader of Industrial Clubs, with their several branches. The second floor is occupied by the department of Animal Husbandry; the third floor, by the departments of Zoology and Entomology with their respective museums; and the fourth floor, by the departments of Bacteriology and Art.

The north or Agronomy wing is 72 by 130 feet, three stories high. The first and second floors, occupied by the departments of Soils, Farm Management, Farm Crops, and Drainage and Irrigation, contain, in addition to the offices of these departments, rooms variously devoted to laboratory and class purposes.

The south or Horticultural wing is 72 by 130 feet, three stories high. In the basement are located laboratories for plant propagation, spraying, vegetable preparation, and fruit packing. The basement also contains the general storage rooms for the department, and rooms which are especially adapted for the storage of fruits. The first floor contains the offices of the department of Horticulture, the research laboratory, systematic pomology laboratory, and three large lecture rooms. The second floor contains the offices and museums of the department of Botany and Plant Pathology, recitation rooms and student laboratories. The third floor contains the horticultural museum and horticultural herbarium, photograph

room, large student lecture room, drafting rooms, lecture rooms, and office of the Landscape Gardening section.

The Library Building, located south and west of the Mines Building, consists of two stories and basement in front and three stories and basement at the back. It is built of red brick and gray terra cotta, presenting a quiet and dignified appearance, in keeping with the use, fundamental to education, to which it is put. The most modern and effective system of lighting, heating, and ventilating is installed.

The first floor consists of an entrance hall, the technical periodical room, binding room, an auditorium for classes too large to be accommodated by the classroom of ordinary size, two other classrooms, and coatrooms. The second and third floors at the front are occupied by the main reading room, ample to seat over three hundred for reference work. Back of this room on the second floor are the offices, cataloguing, and other workrooms. The third floor consists of comparatively small rooms designed ultimately for seminar rooms for the use of such departments as will make the library their chief laboratory; however, under present crowded conditions on the campus, this story is used for offices of the department of Public Speaking and Dramatics, the Dean of the School of Basic Arts and Sciences, and the Dean of Women.

The northwest part of the Library contains the fireproof steel stack room, which houses in safety the collection of valuable books, and permits their easy and effective use.

The building is ample to accommodate the growth of the library for many years, and its architecture permits stack expansion as time and growth demand it.

Greenhouses. A range of greenhouses aids the student in his studies in commercial greenhouse work. The range is made up of five even-span houses, three ninety feet long by twenty feet wide, and two thirty-three feet long by twenty feet wide, making the total area under glass 6,720 square feet. Each of the large houses has been divided into sections thirty feet long, so that the entire space in each may be devoted to a single crop. Of the two smaller houses, one is given up to research work, and one to general plant propagation. Such crops as carnations, chrysanthemums, violets, palms, ferns, general pot plants, and forced vegetables, like tomatoes, lettuce, and cucumbers, are grown in these houses.

Dairy Building. Just north of Agricultural Hall is located the Dairy Building. The general scheme of both outside and inside finish is similar to that of Agricultural Hall. The structure is 54

by 141 feet, three stories high. On the first floor are the offices of the Dairy department and laboratories for buttermaking, cheesemaking, and market milk instruction, including a boiler and engine room and student lockers. On the second floor are the testing laboratory, advanced laboratory, veterinary laboratories, etc. The third floor is temporarily occupied by the department of Mathematics with the exception of a general lecture room, extending across the south end of this floor, and having a seating capacity of two hundred.

The Forestry Building. The three-story Forestry Building, 80 by 136 feet, constructed of brick, houses the work in forestry and logging engineering. This building contains roomy laboratories for work in silviculture, dendrology, mensuration, forest protection, technology, drafting, and logging engineering. As rapidly as material can be assembled these laboratories are being supplied with the various instruments and equipment which the peculiar work of each requires. In addition to the laboratories, space is to be devoted to a collection of manufactured wood products, designed to show the various uses to which wood may be put and to a forest museum in which will be assembled large specimens of all commercial woods of the United States. All available publications dealing with forestry and logging subjects are provided for the use of students. Portions of the building are used temporarily by the School of Vocational Education, by the department of English, and the department of Poultry Husbandry.

Home Economics. The Home Economics Building now lacks only the west wing to complete the original plan of a central unit, two connecting links, and two wings. As it now stands the building measures about 215 feet in length and 120 feet in total width. It is located directly west of the Dairy Building and east of the Farm Mechanics Building, facing the Men's Gymnasium and the Forestry Building, across the West Quadrangle to the south. It consists of three stories above a high basement, and is built of brick and terra cotta. Heating, lighting, and ventilating systems of the most modern type are installed, and every provision—including an electric elevator, rest room, reading room, lockers, and dressing room—is made for the comfort and convenience of the young women pursuing work in Home Economics.

Large laboratories and lecture rooms for food preparation and for household arts are now amply provided in this building for the accommodation of all students. Adequate office room is also available for members of the Home Economics staff, and special laboratories are devoted to weaving and dyeing, laundry, etc. A feature

of the building that affords opportunity for practical instruction in dietetics and institutional management is the large dining-room on the third floor of the central unit, capable of seating 300 people, and the kitchens, with modern equipment, where food is prepared for this dining-room. Another feature of practical value to all students is the group room arrangement showing two types of effective equipment for a home in accordance with a low or moderate family income, the object of each being to illustrate a kitchen, dining-room, and living-room proportioned, arranged, and equipped with the least outlay for the largest degree of genuine comfort, convenience, and charm.

The Mines Building, 65 by 81 feet in dimensions, located northeast of the Library and about one hundred yards northwest of the Administration Building, is one of the newer structures. It is a fine four-story structure, constructed of brick, trimmed with stone, and similar in type to all the newer buildings on the campus. The first floor of the building contains the main offices, assaying, metallurgical, and chemical engineering laboratories. The basement contains the crushing and sampling rooms, stock rooms, and ore-dressing laboratory. On the second floor are drafting, lecture, and class rooms. On the third floor are the geological museum, mineralogical and petrological laboratories. All the laboratories are provided with water, gas, and electric lights.

Apperson Hall, situated about one hundred fifty yards northeast of the Administration Building, is 90 by 120 feet in size, three stories high, constructed of Oregon gray granite, sandstone, and terra cotta. With the addition of the third story during the summer of 1920 and complete remodeling of the interior the structure is virtually a new building. The first floor contains offices, laboratories, and classrooms for the departments of Electrical Engineering and Light and Power. The second floor contains offices of the departments of Physics, Highway Engineering, and Electrical Engineering, and various classrooms and laboratories. The third floor contains offices for Irrigation Engineering, Civil Engineering, and Railroad Engineering, four drawing rooms, and five class and lecture rooms.

Mechanic Arts Building is a modern, well-lighted structure of brick, with cement foundations, 52 by 52 feet, two stories high, flanked by a one-story wing on the east, 40 by 220 feet, and a similar wing on the south, 40 by 200 feet. The central portion contains the office of the Dean of the School of Engineering, a display room for student work, a tool-room for the machine shop, and a finishing

room for the wood shop. On the second floor is a general drafting room, 30 by 50 feet, with a blue-print room and a dark room adjoining. The south wing contains the main woodworking shop, 40 by 97 feet, a stock room 30 by 40 feet, a carpenter shop 20 by 40 feet, and the O. A. C. Press, 40 by 50 feet. The east wing contains the machine shop, 40 by 80 feet, the blacksmith shop, 40 by 100 feet, store room for coal and iron, lockers, and toilet rooms.

The Foundry, which is located immediately south of the blacksmith shop, is built of brick. It contains one 22-inch Colliau cupola for melting iron, one brass furnace, one portable core oven, one stationary core oven for larger work, one twelve-hundred-pound crane ladle, one eight-hundred-pound crane ladle, and several smaller ladles. It contains also one crucible brass furnace, one two-ton jib crane, one post crane, one No. 2 Delano pulley molding machine, one tumbling barrel for cleaning castings, and a liberal supply of smaller tools, flasks, etc.

Engineering Laboratory. The Engineering Laboratory, recently completed, is a brick and concrete building 220 by 63 feet, three stories high. It is located on Monroe Street, directly north of the Mines building and adjacent to the Mechanic Arts Building.

The main laboratory is 220 by 40 feet and includes three principal divisions: (a) a materials laboratory occupying about one-third of the building at the east end; (b) a hydraulics laboratory occupying the middle third; (c) a steam and gas engine laboratory occupying the west end of the building. Each of these divisions has floor space on the basement, main floor, and mezzanine or gallery floor. All are served by a five-ton electric traveling crane. The south part of the building contains offices, recitation rooms, drafting rooms, and special laboratories. The latter include highway materials laboratory, fuel and oil testing laboratory, metallography laboratory, and automotive laboratory. A 100-horsepower water tube boiler is located in the basement to furnish heat for the building and steam for experimental use in the laboratory.

The Women's Gymnasium is situated about two hundred yards south of the Administration Building, and is erected against a gently sloping bank on Jefferson Street. The structure, 70 by 120 feet, is built of stone and wood, and comprises a basement, or first floor, facing east, with the main floor above it, having a bank entrance on the west end. The first floor of the building is devoted to locker rooms, dressing rooms, bathrooms, and offices, together with a rest room and a special room for corrective gymnastics. The second floor consists chiefly of one large gymnasium room, which is also frequently used as a lecture hall, assembly room, and social

center for moderate-sized gatherings. This room is surmounted by a balcony running track, suspended from the trusses. The room affords facilities, in a court 79 by 54 feet in dimensions, for basketball, indoor baseball, tennis, and various winter and indoor games.

The Men's Gymnasium, situated on Jefferson Street and adjoining the main athletic field, is now practically complete. The central unit, 90 by 150 feet in size, provides a main hall with 13,500 square feet of floor space for three regulation basket-ball courts and space for general gymnasium and indoor athletic work. This hall is occasionally used as an auditorium for large assemblies and entertainments. The men's lockers, dressing-rooms, the showers, the departmental offices, and a large lobby for receptions, are also located in the central unit. The east wing, 52 by 96 feet in dimensions, provides an auxiliary gymnasium for apparatus work, three handball courts, two wrestling and boxing rooms, and one large room for volley-ball. The new west wing, 52 by 96 feet, provides an additional boxing and wrestling room, bowling alleys, handball and squash courts. The fourth unit provides a natatorium 50 by 100 feet in size, of white tile construction, lighted at the bottom with special electric lights, and equipped with the most modern diving boards, and with a refiltration and violet-ray system which keeps the water sterile. The pool, which is one of the largest and finest in this part of the country, is surrounded by a gallery capable of seating fifteen hundred spectators.

The Armory is situated about three hundred yards south of the Administration Building. It is one of the largest of its kind in the United States and is built of concrete and steel, 126 by 355 feet. The drill hall portion has an unobstructed area of 36,000 square feet. The arms room, offices, and drill hall afford facilities for the accommodation of 1,000 men.

The Commerce Building, just completed, 1922, is located north of the Dairy Building with entrances from both the north and the south. It is of the "U" type, 186 feet long and 67 feet wide, with wings 28 by 107 feet. There are three floors above a well-lighted ground floor. The most approved methods of heating, lighting, and ventilation are employed. The new building houses the offices of the President and the Executive Secretary; the College Editor; the Clerical Exchange; the O. A. C. Press; offices of student publications; the department of Industrial Journalism; the Bureau of Organization and Markets; the executive office of the School of Commerce; the departments of Business Administration, Economics and Sociology, Political Science, and Office Training; and that part of the department of Mathematics which deals with commercial mathematics.

Waldo Hall, one of the halls of residence for women, occupies a commanding site one hundred fifty yards west of the Armory. It is a large building of striking appearance, with a cement foundation and basement wall, and a cream-colored, pressed-brick superstructure, three stories high. The dimensions are 96 by 240 feet; and it contains one hundred twenty-five rooms for students, besides a kitchen, dining-rooms, and parlors. It is modern in its appointments and finished throughout in natural grain Douglas fir, stained to conform to the color scheme.

Cauthorn Hall, another of the women's halls of residence, is a well-proportioned frame building, situated on a commanding spot in the western part of the campus. It is 160 by 50 feet, has three stories and basement, and contains sixty-two rooms, besides a large kitchen, dining-room, and reception rooms. Its furnishings and appointments are adequate, modern, and in harmony with its use. Each floor is supplied with hot and cold water, baths, electric light, and steam heat.

Margaret Snell Hall, another hall of residence for women, completed in 1921, is located north of the Home Economics Building. The building is 235 feet long by 96 feet wide, built of brick and terra cotta, three stories high above a basement. On the first floor are located the reception rooms and the dining-room and kitchens, together with a few student rooms. The laundry and freight room are located in the basement, which is connected by an elevator with a trunk-storage room on each floor. One hundred twenty-eight rooms, most of them designed to accommodate two students, are equipped with individual closets, running water, steam heat, and electric lights. Compartment bathrooms, with showers in addition, a hair-dressing room, and a clothes-pressing room, are provided on each floor, all with thoroughly modern and sanitary equipment. The stairways are easy and convenient. On the third floor a hospital room, with three beds, is equipped with separate kitchen and bathroom, and connected with the main kitchens by a dumb waiter. Throughout the building every facility is provided in keeping with good management, health, and home comfort.

Men's Dormitory. This building, fitted up in the fall of 1919 as a campus residence for men students, is 204 by 57 feet in size, located near the Men's Gymnasium and the "Y" Hut. While the building was erected during the war as a barracks, it was designed to be a permanent structure on the campus and was built with a view to being veneered with brick. It is built on a decided slope, with basement and three floors. The basement, with cement floor, accommodates a large cafeteria. The first floor contains a spacious living-room at the east end, and a number of student rooms at the west

end. The two upper floors are given up entirely to student rooms. Lavatory, toilet and shower-bath facilities are provided on each floor, and laundry facilities in the basement. Student rooms are finished in wood, well lighted, and conveniently arranged. Steam heat and electric lights are provided throughout the building. Rooms are arranged to accommodate from two to four students; and furnishings, such as closet space, tables, chairs, iron bedsteads, etc., are provided on this basis.

Shepard Hall, the student building now under the auspices of the Y. W. C. A., was completed at a cost of something over \$22,000. The building is a tribute to the memory of Clay Shepard, who gave his life to the cause of cleaner, higher, and truer citizenship as exemplified in student life. The basement contains a swimming pool, shower-baths and locker rooms, kitchen, wood room, and accessories. The first floor contains a large lobby which is used for social events and as a general gathering center for women, the offices of the General Secretary, a public office, and a combined cabinet and check room.

The "Y" Hut. The "Y" Hut is 60 by 110 feet in size, consisting of one main floor with balconies. The auditorium has a stage, moving picture equipment, large fireplace, and writing and game tables. Smaller rooms adjoining are used for many purposes, such as committee meetings, billiards, the Secretary's office, and library. Opening from the balconies are offices of various student activities.

Horticultural Products Building. The building is of brick, 72 by 46 feet in dimensions, with full basement and two additional floors. The inside walls are of brick with enamel coating, and the floors are waterproof, so that the entire building can be flushed out. The building is provided with steam, hot and cold water, and electricity for both lighting and power. The equipment includes an elevator. On the first floor is a large evaporation room with a tunnel prune drier consisting of three tunnels twenty-two feet long. Here also is a kiln drier to be used especially for such fruits as apples. Adjoining the evaporation room is a receiving room, which can be utilized for processing, or for jam and jelly making. This floor also contains an evaporation room for the manufacture of juice, vinegar, and similar products. On the second floor is a canning room seventy-two feet long, equipped for the canning of fruits and vegetables; a room for experimenting with special fruit products. There is a laboratory for young women in Household Science, where may be worked out the food value of various horticultural products. In the basement are excellent storage facilities for canned goods, vinegars, and other products.

The Stock Judging Pavilion. The Animal Husbandry work of the College is greatly facilitated by a judging pavilion, which provides comfortable and commodious quarters for all of the demonstration work with livestock. The main room is 40 by 90 feet, well lighted and heated. A movable partition is provided whereby this large room may be divided into two smaller ones, each large enough for all ordinary purposes.

The Veterinary Building, a frame structure 56 by 65½ feet, is used for both instructional and Experiment Station work. The front part of the building consists of two rooms, lighted by skylights and large windows. One of the rooms is a small amphitheater, with a seating capacity of about one hundred twenty. This is used very largely for clinic. The arena is sufficiently large for casting animals for surgical work. The opposite room is used for dissection and for holding autopsies. It is equipped with an overhead track for suspending carcasses, and is large enough to accommodate five dissection subjects at one time. The back part of the building is divided into two stories. The first floor consists of a dressing room, toilet, and shower-bath room, drug and instrument room, and stalls. There are three box stalls, two of which can be thrown together for use as a maternity stall. There are three tie stalls. The stalls are used for both clinical and experimental animals. The second floor has space for storing feed, and for housing guinea pigs and rabbits. There are two exercising paddocks just behind the building. The paddock fences have a baseboard which extends about three inches below the surface of the ground. The fences are doubled, with the necessary space between them to render the paddocks safe as quarantine pens.

Farm Mechanics Building. A modern building is provided for the Farm Mechanics work. It is a well-lighted brick building, having a large operating floor, a classroom, a locker room, shop, and tool-room on the first floor. The operating floor is of cement and is roomy enough for demonstration and for the operation of the heavier farm machines. Within this place is reserved space for the very heavy farm tractors. A gallery surrounding the operating floor provides space for the lighter farm implements such as tillage, haying, and harvesting machines. The building is equipped with shafting, belting, and power for operating and testing various machines, and a large well is provided for making pump tests. A complete equipment of the most up-to-date farm machinery is loaned the institution by the leading implement dealers of the Northwest; so that the student has constantly before him and is working with and studying the best classes of farm machinery of all types. A new machine shed 52 by 56 feet, with concrete floor, is now located directly south of Farm Mechanics Building.

The Military Stables, located just beyond the Dairy Barn, accommodate the ninety horses and mules which are used in common by the Artillery and Cavalry units. The stalls are double with dirt and wooden floors. There are two through driveways of concrete, ample storage space for forage, and farrier's supply room. Box stalls are provided for sick horses and private mounts of officers. Adjacent to the stables are the gun sheds housing the big guns and other equipment of the Artillery unit. There are also a blacksmith's shop, saddler's shop, artillery repair shop, and cavalry saddle room.

The South Heating Plant, located at the south end of the Armory, is a one-story, reinforced concrete building, with a concrete tunnel and conduits leading to the various buildings on the south side of the campus. It contains three boilers, one two-hundred-ninety, one two-hundred-fifty, and one one-hundred-fifty-five horse-power, with the necessary equipment for heating the buildings connected with it.

The North Heating Plant, a one-story brick building in the rear of Apperson Hall, contains the requisite equipment for supplying various buildings with heat, light, and power.

The Dairy Barn is a frame building with cement foundation and brick pilasters. The main part is 50 by 100 feet, two stories high, with two wings extending to the south, each 46 by 80 feet, one story in height. There is also a milk room, boiler room, and fuel room, as well as bins for the storage of grain and feed. The cow stables are floored with concrete and provided with modern stanchions, milking machines, and feeding facilities. Wide aisles afford convenience to students and visitors. Three silos of different types, erected adjoining the Dairy Barn, are regularly utilized in the feeding of the dairy animals. The second story has storage capacity for one hundred tons of loose hay.

The Cattle Barn. The department of Animal Husbandry has a modern beef-cattle and sheep barn. It is located just west of the old barns, and has a floor space of 52 by 120 feet for sheltering stock. The hayloft has a large storage capacity for three hundred tons of hay and straw. Adjoining the barn are several concrete-floored exercise lots and a new stave silo. Especial conveniences are provided for the feeding, watering, weighing, and handling of livestock. The west half of the barn is at present devoted to beef cattle and the east half to sheep, although it is planned that the entire barn will eventually be used for beef cattle.

The Poultry Houses. On a five-acre tract of land, lying southwest of Cauthorn Hall, have been erected several buildings for the

needs of the department of Poultry Husbandry. The main poultry building is a three-story structure and is used principally for class, laboratory, and demonstration purposes. It contains a demonstrating room with desks and other necessary equipment; a shop, with the necessary tools, benches, and equipment for practice work in building poultry-plant equipment; storage rooms, office, and wash rooms are also provided. In the basement, rooms are provided for fattening and killing fowls, an incubator room for student use, and a feed room with the necessary machinery for grinding and mixing poultry feeds. Besides the main poultry building there is an incubator house, with a capacity of twenty-four incubators and complementary apparatus; and a feed-storage building and a brooding house. There are also colony houses for laying and breeding stock and growing chicks. Part of the colony houses are movable and constructed upon a plan that could be adopted by any farmer. The colony brooding coops are also portable and are used for investigations in both natural and artificial brooding.

Hog Barn and Feeding House. During the fall of 1916 the Animal Husbandry department obtained its long-needed hog barn and feeding house. The barn is designed especially for farrowing and contains twenty-nine pens, with a four-foot alley running the length of the building from east to west. Concrete is used for the entire floor, the feeding troughs, and the automatic watering equipment. The feeding house is 28 by 40 feet in dimensions, three stories high. The ground floor is occupied by a driveway and entrance alley, root bin, two large grain bins, which extend through the second story, and a hopper for dumping grain into the elevator, which leads to the third floor. It provides also equipment for dividing, weighing, and loading pigs, as well as a small boiler for heating water. The second story provides room for the storage of straw, six smaller grain bins with hopper bottoms, and sleeping quarters for the herdsman. The third floor contains the grinder, motor, chutes to grain bins, and storage room for movable equipment. The total capacity of the building is 15 tons of roots, 6,308 bushels of grain, and 40 tons of straw.

THE INCOME OF THE COLLEGE

Funds for the support of the College in its three grand divisions of work, Resident Instruction, Experiment Station, and Extension Service, are derived both from the National Government and the State of Oregon, as follows:

FOR RESIDENT INSTRUCTION**FROM THE NATIONAL GOVERNMENT**

Land-Grant Interest Fund. Interest under the land-grant fund accruing under the act of Congress of 1862 approximates \$11,500 a year. No part of this fund may be used for the purchase, erection, or maintenance of any building.

The Morrill-Nelson Fund. An additional annual appropriation of \$50,000 a year is provided in the Morrill Act of 1890 and the Nelson amendment thereto of 1907, with the same limitation as to usage indicated for the land-grant interest fund.

FROM THE STATE OF OREGON

The Millage Tax. The Resident Instruction work of the College is chiefly dependent for maintenance, including buildings and betterments, upon the income from the millage tax, as provided by the State Legislature of 1913, and by vote of the people May 21, 1920. The income from this source for the calendar year of 1922 is \$1,108,301.

From entrance fees, for the year 1921-22, Resident Instruction work derived an income of \$52,492.35, of which \$18,310 was from non-resident students.

FOR EXPERIMENT STATION

Funds for the Agricultural Experiment Station, including the main station at Corvallis and seven branch stations, each in an important agricultural section of the State, are derived from the National Government, the State of Oregon, and Oregon counties, as follows:

FROM THE NATIONAL GOVERNMENT

The Hatch Fund. Under an act of Congress, approved March 2, 1887, the College receives \$15,000 a year for the maintenance of an Agricultural Experiment Station, "to aid in acquiring and diffusing among the people useful and practical information on subjects connected with agriculture."

The Adams Fund. An act of Congress, approved March 20, 1906, provides an annual appropriation of \$15,000.

This fund is "to be applied only to paying the necessary expenses of conducting original researches or experiments bearing directly on the agricultural industry" of the State, and therefore supplements the Hatch Fund in the maintenance of the Experiment Station.

For the support of the **branch stations** at Moro and Hermiston the National Government contributes annually \$7,500.

FROM THE STATE OF OREGON

State Funds. The State legislature of 1921 made the following appropriations for agricultural investigations during the biennium, 1921-1922. For the general work of the Experiment Station, \$50,000; for crop pest and horticultural investigations, \$30,000; for soil, drainage, and irrigation investigations, \$15,000; for dairy investigations, \$15,000, making a total of \$55,000 annually.

The State also appropriates \$44,500 annually for the support of **branch experiment stations** at Astoria, Burns, Hermiston, Hood River, Moro, Talent, and Union.

County Fund. The Hood River Station receives an additional appropriation of \$4,000 annually from Hood River county.

FOR EXTENSION SERVICE

FROM THE NATIONAL GOVERNMENT

The Smith-Lever Fund. This fund was established by the Smith-Lever Agricultural Extension Act passed by Congress May 8, 1914. By its provisions the Oregon Agricultural College received \$10,000 from the Federal Government to apply towards the support of the Extension Service for the fiscal year ending June 30, 1915. This sum was to be increased annually for seven years, the maximum being reached in the fiscal year 1922-23. In order to maintain Extension work, which had expanded rapidly during the war, Congress appropriated for the fiscal year 1919-20 a Supplemental Federal Smith-Lever fund of \$1,500,000, making available for that year the maximum Smith-Lever fund. Supplemental appropriations in the same amount were provided for the two following fiscal years. For the year 1922-23 the Supplementary appropriation was reduced to \$1,300,000. For the year ending June 30, 1923, Oregon receives \$41,300.38 Federal Smith-Lever fund. This is the maximum increase under the Smith-Lever Act of May 8, 1914, and continues as a permanent appropriation as long as a sum equal to the increase over the basic \$10,000 be "appropriated for that year by the legislature" of the State, "or provided by state, county, college, or local

authorities, or individual contributions within the State for the maintenance of the cooperative agricultural extension work provided for in this Act." Oregon's share of the Supplemental fund of \$1,300,000 is \$9,924.51, making the total Smith-Lever funds for the fiscal year 1922-23, \$51,224.89.

Department of Agriculture Cooperative Funds. For the fiscal year ending June 30, 1923, the United States Department of Agriculture has given Oregon \$24,600 for Extension work in agriculture and home economics, the State duplicating this amount up to \$15,000, as shown under "Cooperative Work." In addition, the Bureau of Biological Survey of the United States Department of Agriculture has appropriated approximately \$10,000 for rodent control work during the fiscal year.

FROM THE STATE OF OREGON

For General Extension Work. The State appropriates \$25,000 a year for general extension work, including extension schools, lectures, demonstrations in agriculture and homemaking, publications, and Farmers' and Homemakers' Week. To meet the Smith-Lever increase the State appropriated \$55,087.48 for the biennium 1921-1922.

For Cooperative Work. For cooperative work with the United States Department of Agriculture, as above mentioned, the State appropriates \$15,000 a year.

For Rodent Control Work. The State appropriated \$7,500 for use in rodent control for the biennium 1921-1922.

For County Extension Work. To meet the appropriations made by various counties for maintaining county extension work, including agricultural and home demonstration agent work, the State is now appropriating approximately \$51,650 a year.

OFFICIAL PUBLICATIONS

The College Bulletins. These publications include the Reports of the Board of Regents, the general College Catalogue, catalogues of the several schools, special announcements of College courses of study, illustrated booklets depicting College activities of special interest or timeliness, announcements of the Summer Session, announcements of the Winter Short Courses, and circulars to prospective students.

Extension Bulletins. These bulletins consist of monographs on the various phases of Agriculture, Household Science and Household

Art, Engineering, Mining, and Commerce, together with bulletins and circulars issued in connection with the Industrial Club work for boys and girls in the public schools and the Home Cooperative Demonstration Projects. These bulletins are written in such style as to be easily understood, thus meeting the popular demand for scientific knowledge and giving it in such form that the people of the State may profit by its application to the problems of everyday life.

The Station Bulletins. These publications include reports upon research problems and upon experimental investigations in agronomy, horticulture, drainage and irrigation, dairying, animal husbandry, poultry husbandry, insect pests, plant diseases, home economics, and special subjects of interest to the husbandman, conducted at the home station or the several branch stations.

STUDENT ORGANIZATIONS

One of the most important factors in rounding out the results and benefits of a college course is the society, club, or association work. As a result of the diverse interests of college life and the varied tastes of the students, the following organizations, besides many others, are maintained by students and faculty.

GENERAL ORGANIZATIONS

The Student Body Assembly. This is an organization of the entire student body working under a constitution and by-laws approved by the faculty and having general authority over all student body enterprises. Officers are elected annually, nominations and elections being conducted in a manner similar to that of the state electorate. The officers consist of a president and a secretary chosen from the senior class, and three vice-presidents, chosen one each from senior, junior, and sophomore classes. These five officers, as a whole, constitute the executive committee of the student body and have general supervision of all affairs of interest to the student body.

The Board of Control. The Board of Control consists of three faculty members appointed by the President of the College, one alumnus chosen by the Alumni Association, and five students who are the executive committee of the student body. The student body constitution vests in this Board of Control authority to supervise all student body interests entailing the expenditure of student body funds. They exercise functions in the main by the approval of budgets and schedules. The immediate supervision is exercised through a general manager appointed by the Board of Control.

Student Self-Government. Student self-government at the College places the general disciplinary powers of the institution in the hands of the students. The Student Council, an organization made up of ten students, five of whom are seniors, three juniors, and two sophomores, has been created and vested with such powers as are necessary to enforce the rules and regulations adopted by the students. Three members of the Student Council hold that position by virtue of their office as president of each of the classes. The remaining members are elected annually by the student body.

The Greater O. A. C. Association. This Association, which includes the whole student body of the College, was organized in 1918 to promote the welfare of the State and the College by fostering a finer college spirit and a keener interest in higher education throughout the State. The students from each county in the State constitute a separate sub-organization with a chairman and other officers who work directly under the leadership of the Greater O. A. C. Executive Committee, composed of three students chosen by the student body at the regular election in the spring. The Association cooperates with the Alumni Association in work for a greater and better O. A. C.

Women's League. The Women's League, organized in 1916, includes all the young women of the student body. In the fall of 1919 it became a member of the Oregon Federation of Women's Clubs. The purpose of the League is to develop unity among the women of the campus and to promote the spirit of democracy. With the approval of the Dean of Women, who is vitally interested in all phases of the activities of the League, the young women determine the general regulations governing women students.

The Cosmopolitan Club. This organization of foreign and American students, installed in 1911, is the local chapter of the Association of Cosmopolitan Clubs of the World. Its purpose is to provide social and educational advantages for its members and to promote international friendship. At present nineteen countries are represented in the local chapter.

CHRISTIAN ASSOCIATIONS

Both the Young Men's and the Young Women's Christian Associations occupy a vital place in the life of the College community. Each association has a full-time general secretary on the campus.

The Young Men's Christian Association was organized at the Oregon Agricultural College in 1890. The Association has grown steadily, enlarging the scope and effectiveness of its work. During the war the Association was reorganized on the basis under which the Army associations operated in the training camps, and during

the S. A. T. C. at the College the "Y" Hut was the center of varied activities and services which built up a remarkable morale among the men in uniform. The College "Y" is now performing a similar service among the student body. The Employment Bureau for Men is conducted by the Y. M. C. A. The Association brings to the College each year a number of distinguished leaders whose addresses are stimulating and inspiring. The writing rooms, committee rooms, the auditorium, and stage have been at the service of the students for social, religious, and other student activities. The Hut continues to be used for College "sings," "movies," and other entertainment vital to the life of the institution. The "Y," in short, is firmly established as a strong inspirational influence in the life of the College.

The Young Women's Christian Association aims to cooperate with all forces of the College and of the community in promoting among the women students a well-developed life. The General Secretary is at the service of all of the women of the campus, at the Association headquarters in Shepard Hall. Those who wish to earn their way through college should apply to the General Secretary, who has charge of the Employment Bureau for Women. On registration days young women of the Y. W. C. A. meet the incoming students and assist them in adjusting their work. The meetings of the Association are held the first and third Thursday of every month. All women are cordially welcome to these meetings. Bible, mission, and industrial study classes, community service, parties, and teas form part of the year's program. Over half of the women in the College are members of the Y. W. C. A.

ATHLETIC ORGANIZATIONS

The Athletic Association. This organization, maintained by the students through the student body assembly, encourages wholesome competition in the various outdoor and indoor intercollegiate sports. It has charge of all details pertaining to the conduct of intercollegiate athletics in which the College may be interested. A committee of the faculty has general supervision over the whole subject of athletics, thus assisting to insure a sound and conservative management.

The Varsity O Association. This association, which succeeds the Orange O club, includes all men of the College who have been officially awarded the Orange O in recognition of service on the intercollegiate athletic teams of the College. The function of the Varsity O Association is to promote the athletic ideals of the College and to serve in an advisory capacity to the Athletic Board of Control.

FORENSIC AND DRAMATIC ORGANIZATIONS

O. A. C. Forensic Association. This is a new organization with the purpose of bringing together for cooperative activity all campus organizations and individuals interested in any phase of forensics. This society through its members has charge of all business pertaining to competitive work in oratory and debate and cooperates in the promotion of forensics and dramatics at the College.

Intercollegiate Debate and Oratory. Each year the Oregon Agricultural College has three intercollegiate debates, putting into the field six teams, three supporting the negative and three the affirmative of the same question. The College sends one representative each year into the old-line State Oratorical Contest in which eight colleges take part, and a representative to an interstate contest in which seven colleges of the West participate (Stanford, Whitman, Washington State, Puget Sound, Pacific University, Montana, and Oregon Agricultural College). Monogrammed sweaters and medals are awarded to the men and women who represent the College in these events.

Local Debate and Oratory. There are interclass and interfraternity contests in debate, oratory, and extempore speaking, those in extempore speaking being carried on in connection with the classes in public speaking. A money prize is given for the best extempore speaking by a student in these contests. In the annual interclass forensic-athletic championship contest two representatives from each class participate. The winner represents the College in the State contest.

The Mask and Dagger. This club was organized for the purpose of offering special training in dramatic art. A try-out is held at the beginning of the college year in which all students except freshman men may participate. If elected by the club's judges they become eligible to try out for college plays. Successful participation in a college production entitles them to active membership in the club. No student, however, will be permitted to take part in a public production who has not an average for all his College work, at the time the play is being prepared, of at least 75 percent. Platform exhibitions are given and standard plays presented during the college year.

Literary Societies. The Shakopean Literary Society, organized in 1918, is open to men and women of the student body, with a membership limit of thirty-five. The purpose of the organization is

encouragement of public speaking. Features of the meetings are debating, oratorical contests, and discussion of current topics. The Lincolnian Literary Society, organized in 1921, fills a similar field.

The Lyceum Club, organized in 1922, prepares students to give musical programs, lectures, and full evenings of readings. Programs are presented in towns of the State. Election to membership depends upon recommendation of the School of Music and the department of Public Speaking and Dramatics.

MUSICAL ORGANIZATIONS

Musical organizations at the College are directed and coached by members of the faculty of the School of Music. Further details may be found by referring to the section of the Catalogue devoted to the School of Music.

The College Band. To become a member of the College Band a student must pass a satisfactory examination in the elements of music and ability to perform on his instrument. Attendance at rehearsals and individual practice are required. Members furnish their own instruments, except basses, baritones, altos, and drums, which are furnished by the College. Instruments must be in low pitch.

The Orchestra. Membership in the College Orchestra is on a basis of standards of musical attainment determined by the conductor of the Orchestra. The training afforded by membership in the Orchestra is of great educational and cultural value to the student.

The Glee Club. Membership in the Glee Club is determined by the director after personal examination of the voices of candidates from all classes in the College. Regular rehearsals are required. The club participates in many public campus functions, and annually tours the State. The programs presented are composed of the best classical and popular music for men's voices, the preparation of which is a valuable experience in voice culture and interpretation.

The Madrigal Club. The Madrigal Club is a singing organization for young women open to talented singers throughout the student body. The club is honored by membership in the National Federation of Music Clubs. Concerts by the Madrigal Club include the most beautiful classical arrangements for women's voices, as well as those termed "popular," and frequently this club presents an opera in conjunction with the Glee Club.

The Mandolin and Guitar Club. The Mandolin Club fills a place in student life for those enjoying the "small strings" in combination. The club is open to all qualified students, and numbers among its members some of the most highly gifted student musicians on the campus.

TECHNICAL CLUBS

A number of clubs and associations in the various technical schools and departments have as their object the advancement of interest and information in the respective technical fields. Among these clubs are the Agricultural Club, Horticultural Club, Withycombe (Animal Husbandry) Club, Farm Management Club, Dairy Club, Soils Improvement Club, Oregon Agricultural College Chamber of Commerce, Civil Engineering Club, Electrical Engineers, American Association of Engineers (O. A. C. chapter), Forest Club, Chemical Engineering Society, Home Economics Club, Miners Club, Pharmaceutical Association, Motor Transport Club, Cavalry Club, Field Artillery Association, Infantry Club, and Society of Military Engineers.

HONOR SOCIETIES

Various societies having as their chief purpose the promotion and recognition of scholarship elect annually from among the student body limited numbers of those who have shown superior scholastic attainment, qualities of leadership, and personal character. The fact that most of these societies are national in scope, with chapters in the leading colleges and universities and with uniformly high standards for membership, makes election to one of the honor societies a distinction greatly prized. The following list includes the honor societies at present represented at the Oregon Agricultural College.

- Alpha Kappa Psi (Commerce, men, O. A. C. chapter established 1914).
- Alpha Zeta (Agriculture, men, O. A. C. chapter established 1918).
- Beta Alpha Psi (Accounting, men, O. A. C. chapter established 1922).
- Chi Epsilon (Chemical Engineering, established 1918).
- Delta Psi Kappa (Physical Education, women, O. A. C. chapter established 1920).
- Delta Sigma Rho (Forensic, men, O. A. C. chapter established 1922).
- Eta Kappa Nu (Electrical Engineering, O. A. C. chapter established 1921).
- Euterpe (Music, women, established 1920).
- Forum (General honorary, men and women, established 1914).
- Gamma Sigma Delta (Agricultural, O. A. C. chapter established 1909).
- Lambda Phi Lambda (Engineering, established 1920).
- Omicron Nu (Home Economics, O. A. C. chapter established 1919).
- Phi Theta Kappa (Commerce, women, O. A. C. chapter established 1920).
- Rho Chi (Pharmacy, men and women, O. A. C. chapter established 1919).
- Scabbard and Blade (Military, O. A. C. chapter established 1920).
- Scribe (Local, journalistic, women, established 1921).
- Sigma Delta Chi (Journalistic, men, O. A. C. chapter established 1920).
- Sigma Tau (Engineering, O. A. C. chapter established 1913).
- Xi Sigma Psi (Forestry, O. A. C. chapter established 1921).
- Zeta Kappa Psi (Forensic, women, O. A. C. chapter established 1921).

STUDENT PUBLICATIONS

The Barometer. In March, 1896, the literary societies of the College began the publication of a monthly periodical, the "O. A. C. Barometer." The enterprise met with deserved success, and "the organ of the student body" is now issued as a four-page, six-column daily. It publishes the news of the College, and is of general public importance as representing the interests, character, and accomplishments of the student body at the College. By action of the Board of Regents, resulting from a unanimous recommendation of the student body, a portion of the regular term student fee of \$5.50 is devoted to the "Barometer," and every student regularly receives the paper.

The Beaver. The annual publication of the junior class made its initial appearance as "The Orange" in 1907. It is a high-class publication, substantially bound, and fully illustrated with photo-engravings, pen-and-ink sketches, and line and wash drawings. It is a full-dress carnival of the year's life, representing the dignity, the beauty, the versatility, the gaiety, the traditions, the sentiment, and the solidarity of the Oregon Agricultural College.

The Oregon Countryman. This is an illustrated monthly magazine, published by the students in Agriculture and Home Economics under the supervision of the faculties of these schools. It is designed to be of special service to the farm home. Besides dealing in a practical manner with the various College departments, it contains articles of scientific value contributed by the Experiment Station workers. Successful men and women of the State contribute articles for each issue.

The Student Engineer. This is a semi-annual magazine devoted to engineering and mechanic arts. Its purposes are to record engineering progress in the Northwest; to furnish news; to publish records of scientific work done by students in this institution; and to publish any matter of special technical and scientific interest to civil, mining, mechanical, and electrical engineers, and foresters and others engaged in technical pursuits.

The O. A. C. Directory, a magazine published twice a year by the students of the School of Commerce under the supervision of the faculty of the School, is devoted to the commercial interests of the College and the State. Articles of merit are contributed by students, faculty, and prominent business men of the State. A feature is the publication each year of a complete directory of all the members of the institution, students, faculty, and employees.

The O. A. C. Alumnus. This is a monthly periodical edited and issued for the Alumni Association by the Secretary of the General Alumni Association of the Oregon Agricultural College, whose office is at the College.

The Orange Owl. This publication, issued quarterly during the college year, is designed to promote creative talent among students in the expression of wit, humor, verse, prose fancy, whimsical essay, pen sketch, and cartoon. The initial publication appeared during Junior Week End in the spring of 1920.

The Annual Cruise is an illustrated magazine published by the Forest Club. Its objects are more closely to unite the forestry and lumbering interests of the Pacific Northwest, to advance scientific forestry and lumbering, and to promote forest interests in every feasible way. Articles of technical value are contributed by members of the faculty and by graduates, experts in their respective fields of effort.

STUDENT EXPENSES

GENERAL FEES

Tuition is free to all students who are residents of Oregon. Tuition is charged to new students not residents of Oregon at the rate of \$20 a term or \$60 a year. Students not residents of Oregon, however, who had registered at the College during the year 1920-21 or in preceding years, are not required to pay tuition. New students not residents of Oregon who served in the recent world war are charged tuition at the rate of one half the regular non-resident fee.

The regular College fees, excepting for special students in music who take no other College work, are as follows:

| | |
|---|-------------------------|
| Registration fee, payable annually on registration | \$10.00 |
| Incidental (Student) fee, payable each term | 5.50 |
| The student fee gives every student of the College the benefits of the Health Service; admission to all athletic events on the campus, all concerts by the student musical organizations, all forensic contests, all lyceum entertainments directed by the Student Council, and a subscription to the student newspaper, The Daily Barometer. | |
| Deposit for military uniform (men), subject to refund on return of uniform | 10.00 |
| Gymnasium fee, a term | Women, \$1.50; Men 2.00 |
| Diploma fee on graduation | 5.00 |
| Binding fee for graduation thesis | 1.00 |
| Vocational certificate fee | 1.00 |

LABORATORY FEES AND DEPOSITS

Students are charged small fees in the different laboratory courses to cover the cost of material used; and deposits are required to cover cost of breakage in laboratory courses where breakages are likely

to occur. These fees are payable at the beginning of each term. At the end of the term deduction is made for actual breakage, and the balance of the deposit is refunded to the student. The fees and deposits charged each term are indicated in connection with the detailed descriptions of the various courses. Any changes in laboratory fees due to changes in market prices of laboratory materials are announced at the beginning of each term.

DEPOSIT FOR MILITARY UNIFORM

Each year a deposit of \$10.00 will be required of all men registering. This deposit will be refunded on the presentation of a certificate exempting a student from military instruction or a certificate from the military department showing that all military clothing charged to him has been turned in or paid for.

BOARD AND ROOM

Halls of Residence for Women. Cauthorn, Margaret Snell, and Waldo halls, with their large airy parlors and rooms, are pleasant residences for the young women who come from distant homes. The buildings are supplied throughout with pure mountain water, both hot and cold, electric lights, steam heat, and other modern conveniences. The rooms are furnished with iron bedsteads, mattresses, dressers, tables, and chairs. Such other materials as are needed to make the furnishings complete, including pillows, pillowcases, sheets, blankets, bed spreads, and towels are furnished by the student. Many of the students prefer to make the rooms more homelike by bringing rugs, curtains, pictures, sofa cushions, etc.; these latter articles, however, are not at all necessary, for the rooms are cheerful and comfortable without additional furniture. The bedrooms average about 12 feet by 15 feet, with one window 3 feet by 7 feet. Many of the rooms are larger, and a few of them have two or three windows. All rooms in the new dormitory have two or more windows. Most rooms are furnished with single beds, but a few double ones are available. There are a limited number of single rooms in each hall. Preference for single rooms should be indicated early. The many advantages of having a roommate should not be overlooked by the student in making her plans for college life.

The conditions of living in the dormitories are such that the College considers it a distinct advantage to the women students to live in these halls of residence. A wholesome, busy student atmosphere is maintained. Reasonable freedom is allowed, but week nights are reserved for study. All girls entering the College are expected to live in one of the dormitories, unless their parents

reside in the city, or they are given special permission from the Dean of Women to live elsewhere. This permission must be obtained from the Dean of Women previous to registration.

The expenses for living for each student in the dormitories are as follows:

| | |
|--|---------|
| Room deposit..... | \$ 3.00 |
| Room rent for each term— | |
| Single room | 30.00 |
| Double room | 15.00 |
| Board per week, payable monthly in advance..... | 5.00 |
| Incidentals, such as laundry fee, electric iron fee, etc., for each term..... | 2.00 |

The College authorities reserve the right to increase the price of room and board should advancing prices make it necessary. A corresponding decrease will be made whenever decreased prices make it possible.

The room deposit of three dollars must be sent to the Director of Dormitories at time of application for a room. If the student withdraws from College, this deposit will be refunded, upon presentation of the receipt, if no damage has been done to the room or furnishings. In case a student who has applied for a room does not enter the College the deposit will be refunded provided notification is sent before September 1.

Women students are not expected to arrive in Corvallis until the day the halls are opened. The dormitories will open for students September 17, 1922, the day preceding the first registration day.

Men's Dormitory. The rooms in the Men's Dormitory accommodate from two to four students each. The rooms all have large windows, averaging in space 4 by 4 feet for each occupant. Comfortable cots, study tables, chairs, drawers, closets, and other conveniences are furnished. Each occupant furnishes the following articles: pillow, pillow-cases, mattress cover, sheets, blankets, bed spread, towels, soap, and individual toilet articles. Rugs, pictures, laundry bag, and similar accessories may be provided to suit the student's desires.

In the large, well-lighted basement, with cement floor, a cafeteria provides wholesome meals at cost. The cafeteria is open to students whether living in the Dormitory or not.

Rooms in the Men's Dormitory are assigned in the order that applications are received. Changes in the assignment may be arranged by communication with the designated authorities of the College. A deposit fee of three dollars is required, which will be refunded at the close of the year, less any deductions necessary to repair damage or abuse. During 1920-21 a uniform fee of \$12.00 a term (approximately twelve weeks) was charged each occupant of the Dormitory for room accommodations.

Private Board for Men Students. Board and room may be secured in private families in the city of Corvallis. Good accommodations for self-boarding, or for club-boarding, can also be secured in the city. By clubbing, or renting rooms and boarding themselves, students materially reduce the cost of living. Students, however, will not be permitted to live at places not approved by the Faculty.

Student Housing Committee. The Committee on Student Housing is chiefly concerned in seeing that all students are properly lodged. It endeavors to aid students in securing suitable rooms in private homes at reasonable rental; attempts to standardize such rooms in respect to equipment, sanitation, etc.; aids organized groups of students in locating suitable building lots, confers with them regarding their plans for building or buying houses, and aids them in their arrangements for financing such projects. All leases of realty, all contracts for the purchase of lots or houses, all financial arrangements for the building of houses, are, before execution, subject to inspection, revision, and approval by the Committee on Student Housing.

PERSONAL EXPENSES

Lists of private boarding places can be secured from the Secretary of the Y. M. C. A. after the student arrives at the College.

The personal expenses of students vary. Many students are able to go through the college year on a comparatively small income. Questions of personal thrift, discrimination in values, and established habits are determining factors here. Men in the R. O. T. C. receive their uniforms from the Government, without cost to themselves. Men are expected to supply themselves with a gymnasium suit and regulation gymnasium shoes. The cost of the gymnasium uniform complete, including shoes, need not exceed four dollars. Women are required to provide themselves with the regulation gymnasium suit and shoes approved by the Director. The suits should be ordered at the gymnasium office at the time of registration. The price is about six dollars.

COST OF A YEAR IN COLLEGE

One of the most perplexing questions that confronts a prospective student is what his course is going to cost him a year. The necessary cost of a year at the College will vary slightly with the particular course pursued by the student. In general, it may be said that the necessary cost per annum, exclusive of the three personal items of clothing, carfare, and amusements, averages about \$400. An estimate of this average cost for the main expense items

is given below. The cost for room and board is estimated at a safe average price. The board and room items are sometimes slightly reduced, where two students occupy the same room, where students prepare their own meals, or where boarding clubs are economically managed.

| | |
|--|----------|
| Annual registration fee | \$10.00 |
| Incidental (Student) fee (\$5.50 a term) | 16.50 |
| Laboratory fees and deposits (average) | 60.00 |
| Text-books and supplies | 60.00 |
| Board (for eight months) | *170.00- |
| Room rent (nine months) | 54.00 |
| Tuition for students not residents of Oregon | †60.00 |

The cost of gymnasium uniform and shoes should be added. Such uniforms, however, as already indicated, should serve for more than one year. Personal expenses, such as clothing, railroad fare, laundry, society dues, etc., vary greatly with the individual.

It is not recommended that any student come to the College without sufficient funds available to purchase his books and college stationery for one entire term, pay his first month's board and room rent in advance, and pay his first term entrance fees. For the average student, this initial outlay will be approximately \$90, the balance of the annual expenses being distributed about evenly throughout the remaining months of the college year.

SELF-SUPPORT

A considerable number of students manage, in one way or another, to earn the whole or part of their expenses while attending the College. Such opportunities occur in the line of office and laboratory assistance, personal services of numerous kinds, the management of various student enterprises, agencies for laundries, etc.

The Student Employment Bureau in charge of the Young Men's Christian Association registers without charge men who apply for employment. It is the purpose of the Bureau to try to supply work, regular or occasional, to all who need it. In general, the demand for work on the part of students exceeds the supply that the Bureau has available; therefore the attention of new students who intend to earn all or part of their living is called to the following results of past experience:

(1) The applications received during the summer will be given first attention; but no student should expect to be able to secure employment by correspondence.

* On account of Christmas and other vacations which most students spend at home, the cost of board is estimated for eight months only.

† Not paid by non-resident students registered at the College in 1920-21 or earlier. Only one half this tuition fee is charged non-resident students who served in the world war.

(2) There is a constant over-supply of those wishing to do teaching and clerical work. None but those having superior qualifications and experience are likely to secure employment the first term.

(3) There is a considerable demand for efficient stenographers; also for men and especially women students who can do domestic labor of any kind; board and room rent may be earned by table service, dish washing, general housework, house cleaning, gardening, etc.

(4) Students who can do any kind of domestic or manual labor well, and who have thoroughly good health, can earn their board by three hours' work a day, or board and room by four hours' work a day. But no student should come to the College without resources sufficient for the expenses of one term. (See "Personal Expenses.") Work of any kind is much more readily secured after the student has had opportunity of becoming familiar with local conditions.

(5) No student should come expecting to earn money if he can do nothing well; skill is essential, as competition is quite as severe in the College community as elsewhere.

(6) Opportunities for earning money during the summer vacations can usually be counted on, the demand for forest rangers, for field workers in engineering and mining, for skilled workmen in engineering shops, factories, canneries, and hop-yards, and for horticultural, farm, and forestry laborers, being most constant.

Upon arrival at the College, men students should report for information to the Information Bureau of the Young Men's Christian Association. Women students should report to the Dean of Women.

Women students desiring work in the Dormitories should apply early to the Director of the Women's Dormitories. The Dean of Women will be very glad to give any information to parents and prospective students concerning any matter of interest to women who are planning to enter the College.

HEALTH SERVICE

The College Health Service, inaugurated in 1916, is a department maintained with the aim of promoting the health of all the students. This aim is sought through medical examination, through consultation during office hours, through attendance of the College physician upon those in hospital and those ill at their residences, through sanitary inspection, and through supervision in case of epidemics. The services of the department, except insofar as the welfare of the College community may require, are not imposed upon any student or group of students. They are available, however, to all students who seek them voluntarily.

The department staff comprises two regular full-time physicians, whose headquarters are at the Health Service Building; two resident graduate nurses, who are in attendance at the same building, and two graduate nurses who are in attendance at the hospital, located at Ninth and Harrison Streets.

The Health Service is maintained by funds derived from the regular student fees, one-third of such fees being devoted to this purpose. The College physicians may be consulted during office hours by any student. They give medical examinations by appointment, and medical advice and attention to those who are ill. They authenticate excuses for absences from College work because of illness.

Patients who require hospital service for illness incurred while in College will be accommodated at the O. A. C. student hospital, where they receive free hospital service for a period not exceeding ten days. Hospital fees at the rate of \$2.50 a day will be charged for periods exceeding the ten days covered by the student fees.

LOAN FUNDS

Student Loan Fund. Through the liberality of friends of the Oregon Agricultural College and though the accumulation of interest on loans, an irreducible student loan fund aggregating \$18,276.80 (June, 1922) has been established. The purpose, as expressed by one of the donors, is "not to induce students to attend school by providing money that can be easily obtained, but rather to aid those who have determined to secure an education and are paying the cost wholly or in part from their own earnings."

The fund consists of the following contributions:

(1) One thousand dollars (\$1,000) from Hon. R. A. Booth of Eugene, restricted to students studying:

(a) Agriculture in its various phases, with a view to becoming producers from the soil.

(b) Such branches of mechanics as properly relate to agriculture.

(c) Home Economics.

(2) Five hundred dollars (\$500) known as the Ashby Pierce Student Loan Fund.

(3) One thousand dollars (\$1,000) from the College Domestic Science Dining Room at the Panama-Pacific International Exposition, restricted to the use of women students.

(4) Four thousand six hundred dollars (\$4,600), without restriction, from accumulated interest and from various College organizations, such as Folk Club, Philadelphian and Feronian Literary societies, the Barometer, the Oregon Countryman, the Cosmopolitan Club, the Faculty, the Alumni, the Christian Associations, the Winter Short Course students of 1914, the Graduating Class of 1915, Chapter AL of P. E. O., Portland, and by various individuals, including Mrs. Clara H. Waldo, Portland; Hon. Thomas Kay, Salem; Hon. James Withycombe, and W. D. Wheelwright.

L. J. Simpson Scholarship Loan Fund. The College has received a gift of \$2,000 from Mr. L. J. Simpson of North Bend, Oregon, whereby five annual scholarship loans of \$100 each, continuing throughout the four years of the student's college course, will be

awarded to worthy students whose needs justify the awards. The administration of the L. J. Simpson Scholarship Loan Fund is in the hands of the regular Student Loan Fund Committee, to whom applications should be made.

The J. T. Apperson Agricultural College Educational Fund. By the will of the late Hon. J. T. Apperson, Regent of the College since its foundation, a fund amounting to between twenty-five and forty thousand dollars is to be a perpetual endowment, administered by the State Land Board of Oregon, for the assistance of worthy young men and women, "who are actual bona fide residents of the State of Oregon, and who would otherwise be unable to bear the expense of a college course at the Oregon Agricultural College." The income from this estate is to be loaned to students at a low rate of interest. Applicants for loans must be recommended to the State Land Board by the President of the College and the State Superintendent of Public Instruction.

PRIZES

The Clara H. Waldo Prize of one hundred forty dollars is an award annually made in the proportions of fifty, forty, thirty, and twenty dollars, respectively, to the woman of highest standing registered as a regular student in one of the degree curricula in the senior, junior, sophomore, and freshman year.

The A. J. Johnson Prize of one hundred forty dollars is an award annually made beginning with the year 1919-20 in the proportions of fifty, forty, thirty, and twenty dollars respectively to the man of highest standing registered as a regular student in one of the degree curricula in the senior, junior, sophomore, and freshman year.

In the distribution of the Waldo and Johnson prizes, the committees having charge of the awards are guided by the following points:

- (a) Proficiency in scholarship.
- (b) Success in student activities.
- (c) Qualities of manhood or womanhood.
- (d) Qualities of leadership.

The Joseph H. Albert Prize of twenty-five dollars is an award annually made to the senior student who is adjudged by a joint committee of faculty and students to have made the greatest progress toward the ideal of character, service, and wholesome influence.

The J. M. Dickson Scholarship of one hundred dollars, established by the estate of the late J. M. Dickson to commemorate his service to the dairy industry of the State and his faith in education

as a factor in the development of agriculture, is awarded annually at the end of the junior year to the student majoring in Dairy Husbandry who in the opinion of the departmental staff excels in scholarship and initiative, and gives promise of attaining leadership in some phase of the dairy industry.

DEGREES AND CERTIFICATES

The Oregon Agricultural College confers the following degrees: B.Sc., M.S., C.E., E.E., M.E., Ph.C., Ph.G.

Certificates are granted those students who complete the Vocational Curricula in Agriculture, Home Economics, Mechanic Arts, or Commerce.

Graduates of major courses in Music receive the Music Diploma.

REQUIREMENTS FOR THE BACHELOR'S DEGREE

The degree of Bachelor of Science in Agriculture, in Forestry, in Logging Engineering, in Home Economics, in Electrical Engineering, in Civil Engineering, in Mechanical Engineering, in Mining Engineering, in Chemical Engineering, in Commerce, in Pharmacy, in Military Science and Tactics, in Vocational Education, and in Industrial Arts, is conferred upon those who have satisfactorily completed the respective four-year curricula, each of which in the aggregate comprises 192 credits of collegiate work in the case of women, and 207 in the case of men, of which latter 12 are taken in Military Science and Tactics. A graduate in any of the curricula receives the bachelor's degree in any other curriculum by completing the studies required in that curriculum.

REQUIREMENTS FOR THE HIGHER DEGREES

Graduate work is done in the several departments of the College under the general supervision of a standing committee of the Faculty known as the Committee on Graduate Students and Advanced Degrees. A complete outline of the work to be pursued by the student, meeting the College requirements for the particular degree sought, must be approved in advance by his major professor and the Committee on Graduate Students and Advanced Degrees. Candidates for any one of the higher degrees are required to complete a certain minimum of resident work, to prepare a suitable thesis, and to pass an oral examination.

The resident work may be completed in a single year by a student who devotes full time to his studies; it consists of a minimum of 48 credits, including the preparation of the thesis. Graduate

credit from other institutions will not be accepted as reducing this minimum. From 24 to 36 of these credits must be devoted to the thesis and to allied subjects in the same department, and will constitute the candidate's major. Work towards the major of a student specializing in any of the technical departments of the College may be taken in allied pure-science departments. For example, it may be necessary for a student majoring in Dairy Husbandry to take work in dairy bacteriology with the department of Bacteriology or a problem in dairy chemistry with the department of Chemistry, etc. From 12 to 24 credits must be selected from other departments of the College and will constitute the minor. Undergraduate work of junior or senior rank may, at the discretion of the committee, be taken as a part of the minor, but when so taken the number of credits allowed for any course will be reduced to two-thirds of the number listed in the catalogue, the assumption being that the candidate can, in work of that grade, accomplish as much in two hours as the average undergraduate in three. No credit toward the major shall be allowed for any regular undergraduate course. At the time of registration, the student shall file with the chairman of the Committee on Graduate Students and Advanced Degrees an outline of each course to be taken for credit toward his major. A sample form of such outline may be obtained from the chairman of the committee.

Each candidate for the degree of Master of Science is expected to be familiar with the principles of the scientific method and with the general facts in the history of the development of science, especially within his particular field.

Each candidate for the Master's degree shall prepare a thesis upon some subject approved by the head of the department in which the student is doing his major work and by the Committee on Graduate Students and Advanced Degrees. This thesis shall be of such character as to require not less than six nor more than twelve credits of work. The thesis subject, accompanied by the student's outline thereof, shall be filed with the chairman of the committee on or before the opening of the second term of the student's registration as a graduate student. The thesis must embody the results of investigation, though not necessarily original research, and a typewritten copy of the thesis, prepared according to the specifications of the committee, must be deposited with the chairman of the committee not later than two weeks prior to the date set for Commencement of the year in which the degree is desired.

After the thesis has been deposited, the chairman appoints a special examining committee and sets a date for the oral examination. This special committee consists of: (1) the one or more

professors in charge of the major; (2) the one or more professors in charge of the minor; and (3) one or more members of the Committee on Graduate Students and Advanced Degrees. The report of this committee is presented to the College Council by the chairman of the Committee on Graduate Students and Advanced Degrees. The chairman will deposit the theses of successful students with the Librarian as soon as possible after the oral examination.

Higher degrees are conferred only at the regular commencement exercises, but the committee may under exceptional circumstances permit the candidate to be absent from such exercises.

Graduate students pay the same entrance, incidental, diploma, and binding fees as undergraduates. Laboratory fees are in each case determined by the head of the department concerned, and must be paid at the beginning of the term in which the laboratory work is done.

ADMISSION TO THE COLLEGE

A. ADMISSION AS REGULAR STUDENTS

In order to be admitted to the Oregon Agricultural College a student must be of good moral character and must present evidence of preparation sufficient to pursue profitably the curriculum for which he desires to register. Such evidence of preparation must be a certificate on a blank secured from the Registrar of the College and signed by an official of the school which the student has attended, stating the nature and amount of the work completed. When a student can not present such certificate he must take the regular entrance examinations of the College, held at the beginning of each term. These examinations are based in general upon the outlines in "Course of Study for the High Schools of Oregon" issued by the State Department of Education, Salem, Oregon.

The specific requirements for entrance to the different courses at the College are as follows:

Degree Curricula. Students sixteen years of age or over, who have completed 15 units of high school work in a high school recognized as standard, will be admitted to the degree curricula on presentation of a signed statement of the principal, showing work completed. It is requested that this statement be made on the "Certificate of Record" blank of the Oregon Agricultural College. Copies of this blank will be sent by the Registrar upon application of either student or principal. The certificate, properly signed, should be filed with the Registrar of the College on or before September 7, 1922. Certificates will not be rejected at a later date, but acknowledgment of the receipt of such certificates will be made by the Registrar up to and including September 7 only.

Students sending certificates at a later date are likely to be delayed in completing registration.

The 15 units of work presented for entrance must include the following:

(1) English 3 units; Elementary Algebra, 1 unit; Plane Geometry, 1 unit.

(2) Six additional units* to be chosen without restriction from among the following subjects: English, Mathematics, Foreign Languages, Laboratory Sciences, and History (including Civics). In Engineering, Forestry, and Mines, these latter units must include $\frac{1}{2}$ unit in Higher Algebra.

(3) Enough additional units selected from subjects credited towards graduation by standard high schools of Oregon must be presented to make a total of 15 units. No credit, however, is accepted in Drill, Spelling, Penmanship, Physical Training, or for work which may be classed as largely a student activity. The College accepts one unit of entrance credit in case of students who have satisfactorily completed at least two years of work in the Junior division of the R. O. T. C.

Fifteen Acceptable Entrance Units Required. A student offering 15 acceptable units, but deficient in certain of the required subjects may be admitted as a conditioned freshman, the condition to be removed at the earliest possible date.

Graduates of accredited high schools (offering 15 or more entrance units) who are deficient in any of the prescribed units listed under (2) may be permitted to make up the deficiency by substitution in the following way: If, for example, a student were to offer only five units prescribed under (2) above, but had a unit in some phase of field, shop, or laboratory work, equivalent to work in the college curriculum, he might, with the approval of the School concerned, receive credit in advanced standing (i. e., collegiate) for this work, and remove his condition by taking a subject from the group listed under (2) in its place.

A unit is defined as one high school subject carried for five 45-minute periods a week throughout the school year. A student is required to earn $7\frac{1}{2}$ college credits for each entrance unit that he lacks. Entrance credits other than those from accredited high schools are evaluated by the Entrance Committee.

*Students registering in the School of Commerce are required to present 2 instead of 5 additional units from subjects listed under (2). In case such students should desire subsequently to transfer to another school, however, they must meet the requirement of 6 additional units from subjects listed under (2). Such students must, of course, submit a total of fifteen units.

While Physics is not prescribed as an entrance requirement, students who are preparing to enter the School of Engineering are urged to take a year's work in high-school Physics where the work is available. Students in the School of Agriculture who have not had a full year of high-school Physics are required to pursue the subject for two terms of their sophomore year.

The foregoing requirements for entrance are in conformity with the Minimum Entrance Requirements for Oregon Institutions of Higher Education. In March, 1921, certain uniform requirements for entrance from high school were recommended to the various higher educational institutions of Oregon by the Committee on Higher Educational Standards of the Oregon State Teachers' Association, representing approximately all the colleges, universities, and normal schools of the State. These standard entrance requirements were approved by the various institutions, and are as follows:

(a) Entrance without deficiency to the colleges, universities, and normal schools of Oregon shall be contingent upon presentation of at least ten (except schools of Commerce; see footnote (*), p. 71) units in English, mathematics, foreign languages (including Latin), laboratory science, and history (including civics). (It is left to the individual institutions to distribute these units according to their respective inclinations.)

(b) The number of units in English should be three, and in these emphasis should fall upon syntax and upon composition of original character.

(c) The remaining five units may be taken in any subject regularly offered in the high school course of study in this state (such as agriculture, drawing, art, manual training, music, teacher training, domestic science, and commerce subjects).

(d) It is recommended to high schools that students taking as much as five units outside the five departments mentioned in section (a) should take significant amounts of each subject to the end that the five units may not be merely a smattering of a number of these electives.

(e) In addition, each institution will make such specific requirements as it may find desirable.

Graduate Curricula. Graduates of four-year curricula in the Oregon Agricultural College or in other colleges of equal rank are eligible for registration as graduate students. Prospective graduate students are required to present credentials to the Registrar as specified under "Admission from Other Colleges."

Vocational Curricula. For admission to the vocational curricula certified evidence is required of the completion of the eighth-grade course of study in the public schools, or its equivalent. For admission to the vocational curricula or short courses applicants must be at least 18 years of age. Applicants who have not completed the eighth-grade course of study, but who are 21 years of age or over, may be admitted to any of these vocational curricula at the discretion of the dean of the school in which the work is to be carried on. For

statements of the length and character of the vocational curricula, see the sections of the catalogue devoted to the respective schools.

Outlines of vocational curricula follow the outlines of degree curricula in the various schools, and descriptions of individual courses open to vocational students are given immediately following the descriptions of collegiate courses in the different departments.

B. ADMISSION AS SPECIAL AND OPTIONAL STUDENTS

Special Students. A person who has attained the age of 21 years and who has the necessary training or experience profitably to pursue courses of college grade may, with the approval of the dean of the school in which he desires to do special work, be registered as a special student. A special student is not a candidate for a degree.

Optional Students. An optional student is one who is qualified to take work of college grade but who, from the nature of the subjects elected, cannot be classified in any department or school. Optional students are under the supervision of the Dean of the School of Basic Arts and Sciences. They are not candidates for degrees.

C. ADMISSION TO ADVANCED STANDING

All questions of evaluating credits in advanced standing are determined by the Committee on Advanced Standing.

Advanced Standing. Students matriculating in the degree curricula with more than the number of credits required for entrance to the freshman class will be given advanced standing for such credits as represent work beyond the full four years of high school—that is, work taken in the graduate year—and are equivalent to the requirements of the curriculum in which the student matriculates.

Admission From Other Colleges. Full credit is given for regular collegiate work completed in other colleges or universities recognized as standard, insofar as such work is equivalent to the requirements of the curriculum in which the student wishes to matriculate. A student who has attended another college or university and desires to enter the Oregon Agricultural College should file with the Registrar, on or before September 7, 1922, an official certificate from the institution from which he wishes to transfer, giving evidence of: (1) his honorable dismissal; (2) a detailed statement of the entrance credits presented at the time of his matriculation at the other college; (3) a detailed statement of the work pursued while in attendance at the other college; and

(4) a marked copy of the catalogue of the institution showing by conspicuous markings the courses which he completed.

ACCREDITED SCHOOLS

Graduates of the following Oregon high schools will be admitted to the Oregon Agricultural College without condition or examination, provided their credentials include the minimum entrance requirements of 3 units of English and 2 (in Engineering and Forestry 2½ or 3) units of Mathematics, together with 5 additional units in English, Mathematics, Foreign Languages, Laboratory Sciences, and History.

| | | |
|---------------|--------------|---------------|
| Airlie | Dallas | John Day |
| Albany | Days Creek | Joseph |
| Alpine | Dayton | Junction City |
| Alsea | Dayville | Kent |
| Amity | Dorena | Kerby |
| Antelope | Drain | Kings Valley |
| Applegate | Dufur | Klamath Falls |
| Arlington | Dundee | Knappa |
| Ashland | Echo | Lafayette |
| Astoria | Elgin | La Grande |
| Athens | Elkins | Lakeside |
| Aumsville | Elkton | Lakeview |
| Baker | Elmira | Lapine |
| Ballston | Enterprise | Leaburg |
| Bandon | Estacada | Lebanon |
| Banks | Eugene | Lexington |
| Bay City | Falls City | Long Creek |
| Beaverton | Flora | Lookingglass |
| Bellfountain | Florence | Lorane |
| Bend | Forest Grove | Lostine |
| Bethel | Fort Kalmath | McMinnville |
| Boardman | Fossil | Madras |
| Bonanza | Gardiner | Mapleton |
| Bridge | Gaston | Marcola |
| Brownsville | Glendale | Marshfield |
| Buena Vista | Glide | Maupin |
| Burns | Gold Beach | Mayville |
| Butte Falls | Gold Hill | Medford |
| Camas Valley | Grants Pass | Merrill |
| Canby | Grass Valley | Metolius |
| Canyon City | Gresham | Mill City |
| Canyonville | Haines | Milton |
| Carlton | Halfway | Milwaukie |
| Central Point | Halsey | Molalla |
| Clatskanie | Hardman | Monmouth |
| Cloverdale | Harrisburg | Monroe |
| Coburg | Helix | Monument |
| Colton | Heppner | Moro |
| Condon | Hermiston | Mosier |
| Coos River | Hillsboro | Mt. Vernon |
| Coquille | Hood River | Muddy Creek |
| Corbett | Hubbard | Myrtle Creek |
| Corvallis | Hugo | Myrtle Point |
| Cottage Grove | Huntington | Nehalem |
| Cove | Imbler | Newberg |
| Crabtree | Independence | Newport |
| Crane | Ione | North Bend |
| Creswell | Irrigon | North Powder |
| Crow | Jacksonville | Nyssa |
| Culver | Jefferson | Oakland |

| | | |
|---------------|--------------|-------------|
| Odell | St. Paul | Tillamook |
| Ontario | Salem | Toledo |
| Oregon City | Sandlake | Tualatin |
| Paisley | Sandy | Turner |
| Parkdale | Santa Clara | Tygh Valley |
| Parkrose | Scappoose | Umapine |
| Pendleton | Scio | Umatilla |
| Perrydale | Scotts Mills | Union |
| Phoenix | Seaside | Vale |
| Philomath | Shaniko | Vernonia |
| Pilot Rock | Shedd | Waldport |
| Pine City | Sheridan | Walker |
| Pleasant Hill | Siletz | Wallowa |
| Portland | Silver Lake | Walterville |
| Powers | Silverton | Warrenton |
| Prairie City | Smith River | Wasco |
| Prineville | Springfield | West Linn |
| Rainier | Stanfield | Weston |
| Redmond | Stayton | Wheeler |
| Richland | Sumpter | Wilbur |
| Rickreall | Sutherlin | Willamina |
| Riddle | Sweet Home | Woodburn |
| Rogue River | Talent | Yachats |
| Roseburg | Tangent | Yamhill |
| St. Helens | The Dalles | Yoncalla |

REGISTRATION

All candidates for admission should file with the Registrar a certificate of their preparatory record on or before September 7, 1922. Certificates of preparatory work will not be rejected at a later date, but applicants can not expect to receive formal acknowledgment of their receipt by the Registrar. Applicants sending in their certificates late may be delayed at registration time. Blank forms for such records may be secured from the Registrar. Such candidates should present themselves for registration at the College on September 18 or 19, 1922. Registration at a later date will be permitted only on presentation of a satisfactory reason for the delay.

Students who have not before registered at the College are advised to reach Corvallis not later than September 16, 1922, in order that they may secure a boarding and rooming place before the first day of registration.

Late Registration. Every student not registering on the regularly scheduled registration days of any term will be required to pay late registration fees as follows: \$1 for the first day late; \$1 for each additional day up to a total of \$5. Five dollars is the maximum fee. In all cases the fee will be collected as are all other fees, when the student registers.

Changes in Registration. Except in cases where the change has been initiated by the instructor in charge or by the dean, a fee of 50 cents is charged for each change in registration after ten days have elapsed from the original registration.

RESIDENT REQUIREMENTS

Every student is expected to obtain from the Registrar's office a copy of Rules and Regulations for Students, giving the routine of registration, the marking system, academic standards, regulations governing student activities, organizations, fraternities and sororities, etc. Students are held responsible for familiarity with the regulations in this handbook.

The College year is divided into three terms of approximately twelve weeks each. The terms in 1922-23 begin on September 18, January 2, and March 26, respectively.

A term credit or credit hour represents three hours of the student's time each week for one term. This time may be assigned to work in classroom, laboratory, or outside preparation.

Normal Work for men consists of work leading to $17\frac{1}{2}$ credits a term during the freshman and sophomore years, 2 credits of which are for Military Science and Tactics, and 17 credits a term during the junior and senior years. Normal work for women consists of work leading to 16 credits a term. No regular student is permitted to register for work leading to more than $18\frac{1}{2}$ credits in any term without special permission from his dean, and not more than $20\frac{1}{2}$ credits a term may be recorded for any student. No student carrying work leading to fewer than 12 credits a term can qualify as a regular student, and only in special cases is a student permitted to register for less than 12 credits of work.

Military Science and Tactics is required of all men students, six credits each year being granted for the required work of the freshman and sophomore years.* Students over 30 years of age, those who are physically disqualified, and those who have served six months or over in the U. S. Army or Navy (except the S. A. T. C.) or who have received commissions in the Army or Navy, may be given credit in the required military work on recommendation of the faculty committee appointed to pass upon advanced credit in Military Science and Tactics. Students seeking advanced credit in Military Science and Tactics or excuse from drill must file a written petition, blanks for which may be secured at the office of the Commandant.

Physical Education is required of all students during the freshman and sophomore years and of women during the two following years also, unless they are excused on recommendation of the Professor of Physical Education for Women.

* Nine credits each year are allowed for the elective work of the junior and senior years.

A physical examination is required of all students entering the College. In case examination of any student discloses physical defects, report is made to the Director of Physical Education, and the physical training of the student is adapted to suit, and if possible to correct, such defects.

Required Subjects. Every student before graduation from any four-year curriculum must have completed the following: English Composition, nine credits; Economics, three credits; Political Science, three credits; Business Administration, three credits; Natural or Physical Science, nine credits. If a modern language is elected, the student will be expected to continue this through two years, though credit will be given for any work completed.

Required English Examination. All students registering as freshmen in the College are required to take an examination on the first Wednesday of the fall term (from 3:00 to 5:00 p. m.) for the purpose of demonstrating their preparation for the work. The examination will cover the fundamental principles of grammar and require evidence of the student's ability to apply these principles in writing. Students failing to obtain a satisfactory grade in this course will be required to pass satisfactorily Eng 11K, a preparatory course offered for entrance credit only, before registering for Eng 101.

Maximum Number of Laboratory Hours. During the freshman and sophomore years the total number of laboratory hours for any student shall not exceed twenty-one hours a week for any term, on the basis of regular or normal course credits. These maxima do not include the time spent in military drill or physical education.

Credit Requirements for a Major or Minor. The term "major work" designates the field within any school in which a student is specializing to the extent of at least thirty-six credits, of which not less than eighteen shall be in one department. Students in Commerce and Home Economics may take a "minor" in some other school by carrying not less than eighteen credits of work in that school.

School of Agriculture

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.
ARTHUR BURTON CORDLEY, D.Sc., Dean of the School of Agriculture.
ALBERT ABSHER, B.Sc., Secretary to the Dean.

Animal Husbandry

ERMINE LAWRENCE POTTER, M.S., Professor of Animal Husbandry;
Animal Husbandman, Experiment Station.
ORAN MILTON NELSON, B.Sc., Professor of Animal Husbandry; Associate Animal Husbandman, Experiment Station.
EARL OSBURN, D.V.M., Assistant Professor of Animal Husbandry.
BENJAMIN WILLIAM RODENWOLD, B.Sc., Assistant Professor of Animal Husbandry.
ALFRED WEAVER OLIVER, B.Sc., Instructor in Animal Husbandry; Assistant Animal Husbandman, Experiment Station.
RAYMOND EUGENE BADGER, B.Sc., Instructor in Animal Husbandry.

Dairy Husbandry

PHILIP MARTIN BRANDT, B.Sc., A.M., Professor of Dairy Husbandry;
Dairy Husbandman, Experiment Station.
ROY CARROLL JONES, B.Sc., Associate Professor of Dairy Production;
Associate Dairy Husbandman, Experiment Station.
VINCENT DICK CHAPPELL, M.S., Associate Professor of Dairy Husbandry; Assistant Dairy Husbandman, Experiment Station.
HOWARD NOTSON COLMAN, A.B., B.Sc., Instructor in Dairy Husbandry.
CHARLES HENDERSON, B.Sc., Instructor in Dairy Husbandry.
CHESTER POLLOCK, Dairy Husbandry Herdsman.
AXEL HANSEN KOEFOED, Dairy Husbandry Creameryman.

Farm Crops

GEORGE ROBERT HYSLOP, B.Sc., Professor of Farm Crops; Farm Crops Specialist, Experiment Station.
CHARLES CURTIS RUTH, M.S., Assistant Professor of Farm Crops; Assistant Farm Crops Specialist, Experiment Station.
JOHN RICHARD NEVIUS, B.Sc., Instructor in Farm Crops; Assistant Farm Crops Specialist, Experiment Station.
HARRY AUGUST SCHOTH, M.S., United States Department of Agriculture, Scientific Assistant in Forage Crops.

RAYMOND GILBERT LARSON, B.Sc., Instructor in Farm Crops, Federal Board.

VERN OWEN, B.Sc., Assistant in Farm Crops.

AGNES RYDER, Scientific Assistant, Seed Laboratory, United States Department of Agriculture (Seed Analyst).

HORACE WOOLMAN, Field Assistant, Office of Cereal Investigations, United States Department of Agriculture.

J. C. LEWIS, Farm Crops Foreman.

Farm Management

HENRY DESBOROUGH SCUDDER, B.Sc., Professor of Farm Management; Chief in Farm Management, Experiment Station.

CLAIR WILKES, B.Sc., Instructor in Farm Management.

Farm Mechanics

WILLIAM JAMES GILMORE, B.S.A.E., Professor of Farm Mechanics.

ALVA ESMOND BRANDT, B.S.A.E., Assistant Professor of Farm Mechanics.

ANTON EVERETT JENSEN, Instructor in Farm Mechanics.

Horticulture

WALTER SHELDON BROWN, A.B., M.S., Professor of Horticulture; Horticulturist in Charge, Experiment Station.

EDWARD MARIS HARVEY, Ph.D., Professor of Research in Horticulture; Horticulturist (Physiology), Experiment Station.

ARTHUR LEE PECK, B.Sc., Professor of Landscape Gardening and Floriculture; Superintendent of Campus and Greenhouses.

ARTHUR GEORGE BOUQUET, B.Sc., Professor of Vegetable Gardening; Horticulturist (Vegetable Gardening), Experiment Station.

ERNEST HERMAN WIEGAND, B.Sc., Professor of Horticulture; Horticulturist (Horticultural Products), Experiment Station.

ANDREW EDWARD MURNEEK, M.S., Assistant Professor of Horticultural Research; Assistant Horticulturist (Physiology), Experiment Station.

HENRY HARTMAN, B.Sc., Assistant Professor of Pomology.

CARL EPHRIAM SCHUSTER, M.S., Assistant Professor of Pomology; Assistant Horticulturist (Pomology), Experiment Station.

LYLE PORTER WILCOX, B.Sc., Instructor in Horticulture.

JAMES CARSCALLEN BELL, M.S., Instructor in Horticultural Products.

SHERMAN GRANT OYLER, B.Sc., Assistant in Pomology.

Poultry Husbandry

JAMES DRYDEN, Professor of Poultry Husbandry; Poultry Husbandman in Charge, Experiment Station.

ALFRED GUNN LUNN, B.Sc., Professor of Poultry Husbandry; Poultry Husbandman, Experiment Station.

FRANK ELMER FOX, B.Sc., Assistant Professor of Poultry Husbandry.

OLIN CLIFFORD KRUM, B.Sc., Instructor in Poultry Husbandry.

Soils

WILBUR LOUIS POWERS, M.S., Professor of Soils; Chief, Department of Soils, Experiment Station.

CHARLES VLADIS RUZEK, B.Sc., Professor of Soil Fertility; Associate in Soils (Fertility), Experiment Station.

EDWARD FRITCHOFF TORGERSON, B.Sc., Assistant Professor of Soils; Assistant in Soils (Soils Survey), Experiment Station.

WILLIAM WATERS JOHNSTON, B.Sc., Assistant Professor of Soils; Assistant in Soils (Irrigation), Experiment Station.

DOUGLAS WILLIAM RITCHIE, B.Sc., Instructor in Soils; Assistant in Soils (Irrigation), Experiment Station.

Veterinary Medicine

BENNETT THOMAS SIMMS, D.V.M., Professor of Veterinary Medicine; Veterinarian, Experiment Station.

FRED MILLER, D.V.M., M.S., Instructor in Veterinary Medicine; Assistant Veterinarian, Experiment Station.

CHARLES RUMPEL DONHAM, D.V.M., Instructor in Veterinary Medicine.

**Basic Arts and Sciences*

M. ELLWOOD SMITH, Ph.D., Dean of the School of Basic Arts and Sciences; Director of the Summer Session.

JOHN FULTON, M.S., Professor of General Chemistry; Director of Chemical Laboratories.

FARLEY DOTY McLOUTH, B.Sc., Professor of Art.

LOUIS BACH, M.A., Professor of Modern Languages.

SHIRLEY JONES, M.S., Professor of Agricultural Chemistry; Chemist, Experiment Station.

HOWARD PHILLIPS BARSS, A.B., S.M., Professor of Botany and Plant Pathology; Plant Pathologist, Experiment Station.

LESTER LOVETT, B.Sc., Professor of Entomology; Entomologist, Experiment Station.

*Here are listed members of other faculties offering instruction open to students in Agriculture.

- GODFREY VERNON COPSON, M.S., Professor of Bacteriology; Bacteriologist, Experiment Station.
- CHARLES BUREN MITCHELL, A.M., Professor of Public Speaking.
- NATHAN FASTEN, Ph.D., Professor of Zoology and Physiology.
- WINFRED MCKENZIE ATWOOD, Ph.D., Associate Professor of Plant Physiology; Associate Plant Pathologist, Experiment Station.
- WILLIAM EVANS LAWRENCE, B.Sc., Associate Professor of Plant Ecology.
- IDA BURNETT CALLAHAN, B.Sc., Associate Professor of English Language and Literature.
- CHARLES ELMER OWENS, A.M., Associate Professor of Plant Pathology.
- FRANK HEIDTMAN LATHROP, A.B., M.S., Associate Professor of Entomology; Associate Entomologist, Experiment Station.
- WALTER SCOTT, Ph.D., Associate Professor of Chemistry.
- NICHOLAS TARTAR, B.S., Assistant Professor of Mathematics.
- SIGURD HARLAN PETERSON, A.B., Assistant Professor of English.
- HELEN MARGARET GILKEY, Ph.D., Assistant Professor of Botany; Curator of the Herbarium.
- HOWARD MARSHALL WIGHT, M.S., Assistant Professor of Zoology and Physiology; Assistant Zoologist, Experiment Station.
- WILLIAM VERNAL HALVERSEN, M.S., Assistant Professor of Bacteriology.
- WILLARD JOSEPH CHAMBERLIN, M.S., Assistant Professor of Entomology; Associate Entomologist (Forest Entomology), Experiment Station.
- JOSEPH ELLSWORTH SIMMONS, M.S., Assistant Professor of Bacteriology.
- GEORGE REUBEN VARNEY, A.B., D.D., Assistant Professor of Public Speaking.
- HAROLD KELLY, B.Sc., Instructor in Agricultural Chemistry.
- FREDERICK JOHN ALLEN, M.S., Instructor in Chemistry.
- JAMES ALEXANDER BERRY, M.S., Instructor in Bacteriology.
- CARL CLAWSON EPLING, B.A., Instructor in Botany.
- REX LOTHROP, B.E., Instructor in Chemistry.
- ALBERT WASHINGTON MARKER, A.M., Instructor in Physics.
- MARY LOUISE PRICE, M.S., Instructor in Chemistry.
- ABRAHAM SCHWARTZ, B.Sc., Instructor in Chemistry.
- HERMAN AUSTEN SCULLEN, A.B., Instructor in Entomology.
- MARGARET STASON, M.S., Instructor in Botany.
- EARL WELLS, A.B., Instructor in Public Speaking.
- FREDERICK RENNER, B.Sc., Teaching Fellow in Botany.
- OSMAN HORACE CADY, M.S., Instructor in Chemistry.

**Other Schools and Departments*

EDWIN DEVORE RESSLER, A.M., Dean of the School of Vocational Education; Professor of Education.

GEORGE WILCOX PEAVY, M.S.F., Dean of the School of Forestry.

GEORGE WILLIAMS MOSES, Colonel, Cavalry, United States Army; Professor of Military Science and Tactics; Commandant of Cadets.

GORDON VERNON SKELTON, C.E., Professor of Highway Engineering.

HECTOR MACPHERSON, Ph.D., Professor of Economics and Sociology; Director of the Bureau of Organization and Markets.

ULYSSES GRANT DUBACH, Ph.D., Professor of Government and Business Law.

FRANK HENRY SHEPHERD, A.M., Professor of Industrial Education.

JESSE FRANKLIN BRUMBAUGH, LL.B., A.M., Professor of Psychology.

FRANCIS LAWRENCE SNOW, Professor of Industrial Journalism.

RICHARD BURR RUTHERFORD, A.B., Professor of Physical Education for Men; Director of Intercollegiate Athletics.

LUCY MAY LEWIS, A.B., B.L.S., Librarian.

NEWEL HOWLAND COMISH, M.S., Professor of Economics.

DOUGLAS CLERMONT LIVINGSTON, B.Sc., Professor of Geology.

FRANK ABBOTT MAGRUDER, Ph.D., Associate Professor of Government and Business Law.

SAMUEL MICHAEL PATRICK DOLAN, C.E., Associate Professor of Civil Engineering.

ERWIN BERTRAN LEMON, B.Sc., Associate Professor of Accounting.

CHARLES JARVIS MCINTOSH, B.S.D., B.Sc., Assistant Professor of Industrial Journalism; Agricultural Press Editor.

EARL DEWITTE DOXSEE, B.Sc., Instructor in Agricultural Education.

Curricula. The School of Agriculture offers a four-year curriculum leading to the degree of Bachelor of Science; a special four-year curriculum in Landscape Gardening leading to the degree of Bachelor of Science; graduate curricula leading to the degree of Master of Science; one-year vocational curricula in General Agriculture and Horticulture leading to certificates; and various short courses of one to twelve weeks' duration.

Admission. Detailed statements of entrance requirements, routine of registration, etc., are given in the special bulletin on "General Information," which is furnished on application. Requirements for admission to the various curricula of the School of Agriculture are as follows:

*Here are listed members of other faculties offering instruction open to students in Agriculture.

Degree curricula: Applicants must be at least 16 years of age and must have completed 15 units of work in a secondary school recognized as standard, these units to include (a) at least 3 units of English, and 1 unit each of Elementary Algebra and Plane Geometry; (b) 6 additional units of English, Mathematics, Foreign Languages, Laboratory Sciences and History (including Civics); and (c) 4 units selected from among subjects credited toward graduation in standard high schools of Oregon. Students who do not present a full unit of Physics must pursue the subject for two terms of their sophomore year.

Graduate curricula: Applicants must be holders of the baccalaureate degree from the Oregon Agricultural College or other college of equal rank.

Vocational curricula: Applicants must have completed a common school course and be at least 18 years of age. Applicants over 21 years of age who have not completed a common school course may be admitted in individual cases on approval of the Dean.

The Baccalaureate Degree. The aim of the work in Agriculture is to train young men to become successful farmers, dairymen, stockmen, poultrymen, and fruit growers; to equip them to become efficient managers of orchard and ranch properties and of agricultural cooperative organizations; to prepare them to become specialists in the service of the United States Department of Agriculture, or in some branch of technical work in agricultural colleges, experiment stations, or extension services; or to prepare them for service as teachers of Smith-Hughes agriculture in the public high schools.

Requirements for Graduation. The completion of 207 college credits by men and 192 by women is required for graduation. Work the first two years is prescribed, except that a three-credit option is allowed each term of the sophomore year. Students who expect to specialize in Landscape Gardening will pursue the curriculum outlined on pages 88-89, all others will pursue the one outlined on pages 86-88. During the junior and senior years, opportunity is offered for specialization in Animal Husbandry, Agricultural Chemistry, Agricultural Education, Farm Mechanics, Bacteriology, Botany and Plant Pathology, Dairy Husbandry, Entomology, Farm Crops, Farm Management, Horticulture, Poultry Husbandry, Rural Architecture, Rural Economics, Sociology, Soils, Zoology, or General Agriculture. Of the 102 junior and senior credits necessary for graduation, 30 are prescribed and 72 are electives.

In addition to the prescribed work of the first two years each candidate for graduation must have completed:

(a) Eighteen or more credits in one of the above-named subjects, as selected at the beginning of the junior year. These courses, together with

the correlated subjects in other departments, must be selected with the advice and consent of the head of the department and the approval of the Dean.

(b) At least fifty-four additional credits from any of the courses given in the School of Agriculture.

(c) Not less than twenty-four credits from among such subjects as English, Public Speaking, Economics, Sociology, Political Science, and Business Administration (of which 12 credits are prescribed, see pages 86-88) or in Industrial Journalism, Psychology, Education, Modern Languages, Mathematics, or Military Science and Tactics.*

Graduate Work. Opportunities are provided in each of the departments of the School of Agriculture for graduates of this College, or of other institutions of equal rank, to do graduate work leading to the degree of Master of Science. The requirements for this degree are explained in full in the special section of the catalogue on "General Information." For information concerning the graduate curriculum in Agricultural Economics and Rural Sociology, see the School of Commerce section of the catalogue.

Vocational Curricula. The vocational curricula and short courses are not preparatory to degree curricula. They are provided for those who have been unable to complete a high school course and for farmers or prospective farmers, young or old, who may desire a short, intensive course of instruction in agriculture. The only requirements are that the applicant must be at least 18 years of age, and must have completed the eighth grade of the public schools, or by practical experience have acquired the ability to carry the work successfully. Vocational curricula in General Agriculture and in Horticulture are offered. In the vocational curricula each term's work is complete in itself. The student may, therefore, attend for twelve, twenty-four, or thirty-six weeks. Certificates are awarded to students who complete the one-year courses.

Short Courses. (a) **Dairy Manufactures.** (Given during second term.) The College for several years offered a one-year vocational curriculum in Dairy Manufactures and a one-month Short Course in the same subject. These two courses are now combined in an eight- or twelve-week Short Course in Dairy Manufactures. This work is offered during the second term of the College session in

* Twelve credits in Military Science and Tactics are required for graduation. Of these, six credits each year are taken in the freshman and sophomore years. The Advanced R. O. T. C. Course is elective and comprises eighteen additional credits (nine in the junior year and nine in the senior year) all of which may be applied as electives for graduation from any school in the College.

the months of January, February, and March. At this time butter-makers, cheesemakers, their helpers, and others interested in this kind of work can best get away from the farm or factory.

These courses are designed to train men as buttermakers and cheesemakers. Men who are experienced in this kind of work find the instruction of great value. This is evidenced by the large number of experienced workmen who attend the courses. This new Short Course will fit them to hold more important positions. Men who have had little or no experience are able to get a good start at a fair salary after completing courses of this kind.

(b) **Dairy Herdsman's Course.** This is an intensive practical course designed to train dairy herdsman, extending through the second and third terms and including work in judging, feeding, breeding, and testing dairy cattle and fitting them for the show ring. In addition to the required classroom work each student is required to do the actual work of milking and caring for a definite number of dairy cattle.

(c) **Farm Mechanics.** A short course in Farm Mechanics covering the selection, operation, and adjustment of tractors will be given during the second term.

(d) **Bee Culture.** This is a concentrated course in practical management of bees for honey production, designed to meet the needs of the man now engaged in beekeeping who does not have sufficient time to take advantage of one of the regular courses offered by the College. The following subjects are among those considered: assembling equipment; life of the honey-bee; fall, winter, and spring management; disease control; queen rearing. The course continues for four weeks during January and February. Two lectures and two laboratory periods are given each day.

(e) **Pomology.** Lectures, laboratory, and field work in orchard management, nut culture, budding and grafting, and spraying.

(f) **Vegetable Gardening.** Practical problems of vegetable growing both for the home garden and for truck crops.

DEGREE CURRICULUM IN AGRICULTURE

(B.Sc. Degree)

Freshman Year

| | Section I | | | Term | | |
|--|-----------|-----|-----|------|--|--|
| | 1st | 2d | 3d | | | |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 | | | |
| General Chemistry (Ch 101, 102, 103)..... | 3 | 3 | 3 | | | |
| General Botany (Bot 101, 102)..... | 4 | 4 | --- | | | |
| Principles of Economic Zoology (ZP 130)..... | --- | --- | 5 | | | |
| Library Practice (Lib 100)..... | --- | --- | 1 | | | |
| Crop Production (FC 100)..... | 5 | --- | --- | | | |
| Elements of Horticulture (Hrt 100)..... | --- | 5 | --- | | | |
| Stock Judging (AH 111)..... | --- | --- | 3 | | | |
| ①Gymnasium (PEm 111, 112, 113)..... | 1½ | 1½ | 1½ | | | |
| ②Military Science and Tactics..... | 2 | 2 | 2 | | | |
| | 17½ | 17½ | 17½ | | | |

Section II

| | | | | | | |
|--|-----|-----|-----|--|--|--|
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 | | | |
| General Chemistry (Ch 101, 102, 103)..... | 3 | 3 | 3 | | | |
| General Botany (Bot 101, 102)..... | --- | 4 | 4 | | | |
| Principles of Zoology (ZP 130)..... | 5 | --- | --- | | | |
| Library Practice (Lib 100)..... | 1 | --- | --- | | | |
| Crop Production (FC 100)..... | --- | 5 | --- | | | |
| Elements of Horticulture (Hrt 100)..... | --- | --- | 5 | | | |
| Stock Judging (AH 111)..... | 3 | --- | --- | | | |
| ①Gymnasium (PEm 111, 112, 113)..... | 1½ | 1½ | 1½ | | | |
| ②Military Science and Tactics..... | 2 | 2 | 2 | | | |
| | 17½ | 17½ | 17½ | | | |

Section III

| | | | | | | |
|--|-----|-----|-----|--|--|--|
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 | | | |
| General Chemistry (Ch 101, 102, 103)..... | 3 | 3 | 3 | | | |
| General Botany (Bot 101, 102)..... | 4 | --- | 4 | | | |
| Principles of Economic Zoology (ZP 130)..... | --- | 5 | --- | | | |
| Library Practice (Lib 100)..... | --- | 1 | --- | | | |
| Crop Production (FC 100)..... | --- | --- | 5 | | | |
| Elements of Horticulture (Hrt 100)..... | 5 | --- | --- | | | |
| Stock Judging (AH 111)..... | --- | 3 | --- | | | |
| ①Gymnasium (PEm 111, 112, 113)..... | 1½ | 1½ | 1½ | | | |
| ②Military Science and Tactics..... | 2 | 2 | 2 | | | |
| | 17½ | 17½ | 17½ | | | |

①Women carry PEw 111, 112, 113, 121, 122, 123.

②Students have the option of entering the infantry unit or the cavalry unit.

Sophomore Year*

Section I

| | 1st | Term 2d | 3d |
|---|------------------------|------------------------|------------------------|
| Quantitative (Ch 247), Organic (Ch 224), Agricultural Chemistry (Ch 251)..... | 5 | 5 | 5 |
| Soils (Sls 201, 202), Drainage and Irrigation (Sls 203)..... | 3 | 3 | 3 |
| General Bacteriology (Bac 201)..... | 4 | .... | .... |
| Livestock Management (AH 221)..... | .... | 4 | .... |
| Elements of Dairying (DH 200)..... | .... | .... | 4 |
| Economic Entomology (Ent 301)..... | 3 | .... | .... |
| ①Optional..... | .... | 3 | 3 |
| Gymnasium (PEm 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Section II

| | | | |
|---|------------------------|------------------------|------------------------|
| Quantitative (Ch 247), Organic (Ch 224), Agricultural Chemistry (Ch 251)..... | 5 | 5 | 5 |
| Soils (Sls 201, 202), Drainage and Irrigation (Sls 203)..... | 3 | 3 | 3 |
| Elements of Dairying* (DH 200)..... | 4 | .... | .... |
| General Bacteriology (Bac 201)..... | .... | 4 | .... |
| Livestock Management (AH 221)..... | .... | .... | 4 |
| Economic Entomology (Ent 301)..... | .... | 3 | .... |
| ①Optional..... | 3 | .... | 3 |
| Gymnasium (PEm 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Section III

| | | | |
|---|------------------------|------------------------|------------------------|
| Quantitative (Ch 247), Organic (Ch 224), Agricultural Chemistry (Ch 251)..... | 5 | 5 | 5 |
| Soils (Sls 201, 202), Drainage and Irrigation (Sls 203)..... | 3 | 3 | 3 |
| General Bacteriology (Bac 201)..... | .... | .... | 4 |
| Livestock Management (AH 221)..... | 4 | .... | .... |
| Elements of Dairying (DH 200)..... | .... | 4 | .... |
| Economic Entomology (Ent 301)..... | .... | .... | 3 |
| ①Optional..... | 3 | 3 | .... |
| Gymnasium (PEm 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

*Students who expect to specialize in Marketing and Agricultural Economics should see the Dean of Agriculture before registering.

①Sophomore students are expected to choose options from sophomore list of optional courses, p. 88.

①Sophomore Options

| | 1st | Term 2d | 3d |
|---|------|------------|------|
| Advanced Testing (DH 204)..... | --- | --- | 2 |
| Judging Dairy Cattle (DH 351)..... | --- | --- | 3 |
| Breeds of Livestock (AH 231, 232)..... | 3 | 3 | --- |
| Farm Motors (FM 111), Farm Tractors and Farm Trucks (FM 112), Farm Implements (FM 131) | 3 | 3 | 3 |
| Landscape Gardening (Hrt 231)..... | 3 | --- | --- |
| Practical Poultry Keeping (PH 201)..... | --- | --- | 3 |
| Plant Propagation and Greenhouse Practice (Hrt 241) | --- | 3 | --- |
| Vegetable Growing (Hrt 221)..... | --- | --- | 3 |
| ②General Physics (Ph 201, 202)..... | 3 | 3 | --- |
| General Geology (G 202)..... | --- | --- | 3 |
| Bacteriology, Botany, Entomology, or Zoology..... | 3 | 3 | 3 |
| Commercial Geography (ES 101 or ES 103) | 4 or | 4 or | 4 |
| Economic History of the United States (ES 201) | 3 | --- | --- |
| Agricultural Economics (ES 362) | 3 | --- | or 3 |

Junior Year

| | | | |
|--|-----|-----|-----|
| Agricultural Economics (ES 362)..... | --- | --- | 3 |
| Farm Accounting (BA 361)..... | 3 | --- | --- |
| Farm Management (FMg 302)..... | --- | 4 | --- |
| Genetics (ZP 351)..... | 3 | --- | --- |
| Comparative Anatomy I (VM 301), or an elective | 3 | --- | --- |
| Plant Pathology (Bot 311)..... | --- | 4 | --- |
| ③or Comparative Anatomy II (VM 302), 3 credits | --- | --- | --- |
| Plant Physiology (Bot 321)..... | --- | --- | 4 |
| ③or Comparative Physiology (VM 321), 3 credits | --- | --- | --- |
| Electives | 8 | 9 | 10 |

Senior Year

| | | | |
|--|----|-----|-----|
| | 17 | 17 | 17 |
| Practical Public Speaking (PSP 251)..... | 3 | --- | --- |
| National Government (PS 301)..... | 3 | --- | --- |
| Electives | 11 | 17 | 17 |
| | 17 | 17 | 17 |

DEGREE CURRICULUM IN LANDSCAPE GARDENING

(B.Sc. Degree)

Freshman Year

| | | | |
|--|-----|-----|-----|
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| Business Correspondence (Eng 105) | --- | 3 | --- |
| Plane Surveying (CE 121) | --- | --- | 5 |
| Modern Language | 3 | 3 | 3 |
| General Botany (Bot 101, 102) | 4 | 4 | --- |
| Plant Propagation and Greenhouse Practice (Hrt 241) | --- | 3 | --- |
| Elements of Horticulture (Hrt 100)..... | --- | --- | 5 |
| Trigonometry (Mth 111)..... | 4 | --- | --- |
| Library Practice (Lib 100) | 1 | --- | --- |
| ④Gymnasium (PEm 111, 112, 113) | 1½ | 1½ | 1½ |
| ⑤Military Science and Tactics | 2 | 2 | 2 |
| | 17½ | 18½ | 18½ |

①No sophomore optional course will be given to fewer than five students.

②Required of students who do not present credit for at least one year's work in high school Physics.

③If this course is elected, one credit should be added to electives.

④Women carry PEw 111, 112, 113, 121, 122, 123.

⑤Students have the option of entering the infantry unit or the cavalry unit.

Sophomore Year

| | 1st | Term | |
|---|-----|------|-----|
| | | 2d | 3d |
| ①English elective | 3 | 3 | 3 |
| Modern Language | 3 | 3 | 3 |
| Plane Surveying (CE 122, 123) | --- | 4 | 5 |
| General Geology (G 301c) | --- | 3 | --- |
| Classification of Economic Plants (Bot 331) | --- | --- | 4 |
| Drawing (A 213) | 2 | --- | --- |
| Industrial Arts Drawing (A 211) | 2 | --- | --- |
| Pen and Pencil Rendering (A 251) | --- | 2 | --- |
| Landscape Gardening (Hrt 231) | 3 | --- | --- |
| Gymnasium (PEm 211, 212, 213) | 1½ | 1½ | 1½ |
| Military Science and Tactics | 2 | 2 | 2 |
| Electives | 2 | --- | --- |
| | 17½ | 17½ | 17½ |

Junior Year

| | | | |
|--|-----|-----|-----|
| Introduction to Economics (ES 391) | 3 | --- | --- |
| Practical Public Speaking (PSP 254, 255), Argumen- tation (PSP 256) | 3 | 3 | 3 |
| Water-color Rendering (A 351, 352) | --- | 3 | 3 |
| Plant Materials (Hrt 331, 332, 333) | 3 | 3 | 3 |
| History and Literature of Landscape Gardening (Hrt 337) | 3 | --- | --- |
| Elementary Industrial Journalism (IJ 200) | 3 | --- | --- |
| Landscape Drawing (Ar 311, 312, 313) | 3 | 3 | 3 |
| Electives | --- | 5 | 6 |
| | 18 | 17 | 18 |

Senior Year

| | | | |
|---|-----|-----|-----|
| National Government (PS 301) | 3 | --- | --- |
| State and Local Government (PS 302) | --- | 3 | --- |
| Theory and Design (Hrt 431, 432) | 4 | 4 | --- |
| Town Planning (Hrt 437) | --- | --- | 4 |
| Field Practice (Hrt 434, 435) | 4 | --- | 4 |
| Business and Rural Law (PS 163) | --- | --- | 3 |
| Business Management (BA 332) | --- | 3 | --- |
| Electives | 6 | 5 | 6 |
| | 17 | 15 | 17 |

①Eng 201 must be taken one term.

VOCATIONAL CURRICULUM IN GENERAL AGRICULTURE

| | 1st | Term 2d | 3d |
|---|------------------------|------------------------|------------------------|
| Farm Soils (Sls 50)..... | 5 | --- | --- |
| Vocational Stock Judging (AH 11)..... | --- | 5 | --- |
| General Farm Mechanics (FM 10)..... | --- | --- | 5 |
| General Farm Crops (FC 10)..... | 5 | --- | --- |
| Feeding and Management (AH 21)..... | --- | 5 | --- |
| Diseases of Domestic Animals (VM 41)..... | --- | --- | 5 |
| Plant Disease Control (Bot 11)..... | 3 | --- | --- |
| Practical Farm Management (FMg 12)..... | --- | 3 | --- |
| Injurious Insects (Ent 14)..... | --- | --- | 3 |
| Vocational English (Eng 13)..... | --- | --- | 3 |
| Farm Accounts and Business Methods (BA 61)..... | --- | 3 | --- |
| Practical Farm Drainage (Sls 60)..... | 3 | --- | --- |
| ①Gymnasium (PEm 11, 12, 13)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 18 $\frac{1}{2}$ | <hr/> 18 $\frac{1}{2}$ | <hr/> 18 $\frac{1}{2}$ |

Practical Poultry Keeping (PH 201) may be substituted for any other three-credit subject upon the request of at least five students.

VOCATIONAL CURRICULUM IN HORTICULTURE

| | | | |
|---|------------------------|------------------------|------------------------|
| Farm Soils (Sls 50)..... | 5 | --- | --- |
| General Farm Mechanics (FM 10)..... | --- | --- | 5 |
| Farm Accounts (BA 61)..... | --- | --- | 3 |
| Farm Dairying (DH 20)..... | --- | 3 | --- |
| Feeding and Management (AH 21)..... | --- | 5 | --- |
| General Farm Crops (FC 11)..... | 3 | --- | --- |
| Orchard Management (Hrt 11, 12, 13)..... | 5 | 5 | 5 |
| Vegetable Gardening (Hrt 21, 22, 23)..... | 3 | 3 | 3 |
| Gymnasium (PEm 11, 12, 13)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 18 $\frac{1}{2}$ | <hr/> 18 $\frac{1}{2}$ | <hr/> 18 $\frac{1}{2}$ |

①Women carry PEw 11, 12, 13, 121, 122, 123.

Courses in degree curricula are designated by numbers of three digits in which the left-hand digit represents usually the year (as first, second, third, etc.) in which the course is normally pursued; the middle digit represents the group of related courses in the department to which the course belongs; and the right-hand digit represents the sequence of courses in cases where courses normally follow each other in succeeding terms. Courses in vocational curricula are numbered with two digits, the first generally representing the year in which the course is pursued, the second the sequence of the course.

Under each department descriptions of vocational courses are printed immediately after the descriptions of collegiate courses.

ANIMAL HUSBANDRY

The courses in Animal Husbandry are planned to fit the student for the actual raising of livestock on the farm, so that he may produce the highest grade of stock in the most economical and business-like manner. The student is thoroughly grounded in the underlying principles in order that he may successfully continue his study after leaving college, but the practical details are also thoroughly treated and a special effort is made to keep the students in close touch with the financial phases of the industry. Students who take this work as their specialty are expected not to devote their entire time to livestock; but, on the contrary, to familiarize themselves with crop production, soil fertility, and other phases of agriculture as well as general educational subjects.

Students electing to major in Animal Husbandry must have had considerable practical experience in farming and stock raising before they may be graduated. The nature and extent of the experience required is left to the judgment of the head of the department.

Students not majoring in Animal Husbandry but desiring to elect some work in the department will be given careful attention to see that they get just the work fitted to their individual needs.

Equipment. The equipment of the department of Animal Husbandry consists essentially of livestock, barns, and the College stock farms. During the past years the livestock available for illustration and demonstration purposes has been very much improved in numbers and quality. In addition to the livestock regularly kept on the College farm, much good stock is loaned from time to time by the leading breeders of the State. During the winter, car-load lots illustrating the market classes are brought in for demonstration purposes. The department possesses abundant equipment for the conduct of laboratory, lecture, and recitation work.

COLLEGIATE COURSES

AH 111. Stock Judging I. The various types of farm animals are studied by score cards and comparative methods, and the student is made familiar with the desirable and undesirable types of beef and dairy cattle, sheep, swine, and horses.

Required in Agriculture; freshman year; any term; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$0.25. Text: Vaughan, Types and Market Classes of Live Stock.

B. W. Rodenwold, E. B. Osborn, R. C. Jones

AH 115. **Stock Judging II.** Same as AH 111.

Elective for women; first term every other year; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$0.25. Text: Vaughan, *Types and Market Classes of Live Stock.* *A. W. Oliver*

AH 221. **Livestock Management.** Practical details of the care and management of livestock, stabling, grooming, sanitation, practical feeding, and kindred details of livestock farming, all with special reference to Western conditions.

Required in Agriculture; sophomore year; any term; 4 credits; 3 recitations; 1 two-hour laboratory period. Fee \$0.50. Text: Potter, *Western Live Stock Management.* *E. B. Osborn*

AH 231. **Breeds of Livestock I.** A study of the breeds of horses and beef cattle, their development, breeding, and type.

Prerequisite: AH 111. Required in Animal Husbandry; sophomore or junior year; first term; 3 credits; 3 recitations; 1 laboratory period. Fee \$0.25. *E. B. Osborn, R. W. Rodenwold*

AH 232. **Breeds of Livestock II.** A study of the breeds of sheep and swine, their development, breeding, and type.

Prerequisite: AH 111. Required in Animal Husbandry; sophomore or junior year; second term; 3 credits; 3 recitations; 1 two-hour laboratory period. Fee \$0.25. *A. W. Oliver, O. M. Nelson*

AH 311. **Stock Judging III.** Course in judging of all kinds of stock.

Prerequisite: AH 111. Elective in Animal Husbandry; junior year; third term; 3 credits; 4 two-hour laboratory periods. Fee \$0.25. *B. W. Rodenwold*

AH 351. **Animal Nutrition.** The chemical and physiological principles of animal nutrition; function of the various classes of nutrients when taken into the animal body; nutritive ratios; feeding standards; compounding ratios; feeds with special reference to chemical composition, energy, values, and general adaptability to stock-feeding purposes.

Prerequisite: Ch 251. Required in Animal and Dairy Husbandry; junior year; first term; 4 credits; 4 recitations; 1 two-hour laboratory period. Text: Henry and Morrison, *Feeds and Feeding.* *O. M. Nelson*

AH 352. **Feeds and Feeding.** An advanced course in the feeding of horses, beef cattle, sheep, and swine. Special study is made of the practices of the best stockmen, and of investigations carried on by the various experiment stations. Students desiring to take only such parts of the course as relate to certain kinds of livestock will be permitted to do so by arrangement with the head of the department.

Prerequisite: AH 351. Required in Animal Husbandry; junior or graduate year; second term; 5 credits; 5 recitations; 1 two-hour laboratory period. Text: Henry and Morrison, Feeds and Feeding.
E. L. Potter

AH 411. Stock Judging IV. Practical judging of all kinds of livestock, with occasional trips to fairs and stock farms. Judging teams for the Pacific International Stock Show are chosen largely from among the members of this class.

Prerequisites: At least four credits in stock judging. Required in Animal Husbandry; senior or graduate year; first term; 4 credits; 5 two-hour laboratory periods. Fee \$0.25.
E. L. Potter

AH 412. Stock Judging V. Continuation of AH 411.

Prerequisite: AH 411. Elective in Animal Husbandry; senior or graduate year; first term; 4 credits; 5 two-hour laboratory periods. Fee \$0.25.
E. L. Potter

AH 421. Livestock Practice. Laboratory practice in such work as dipping, dehorning, hoof trimming, shearing, horse training, and other common operations of the stock farm.

Required in Animal Husbandry; senior or graduate year; first term; 1 credit; 1 three-hour laboratory period. (Note: The department reserves the right to limit the number of students in this course.) Fee \$0.50.
B. W. Rodenwold

AH 422. Livestock Practice. A continuation of AH 421.

Required in Animal Husbandry; senior or graduate year; third term; 2 credits; 2 three-hour laboratory periods. Fee \$1.00.
E. B. Osborn

AH 441. Animal Breeding. A series of lectures dealing with the application of the principles of genetics to animal breeding and with the methods and practices of the leading livestock breeders.

Prerequisite: ZP 351. Required in Animal Husbandry; senior or graduate year; second term; 1 credit; 1 lecture. *E. L. Potter*

AH 445. Pedigree Study. A laboratory study of the blood lines of the various breeds of livestock. Each student is expected to select one or two breeds as the basis for special study rather than to attempt to cover all breeds.

Elective in Animal Husbandry; senior or graduate year; each term; credits and hours to be arranged. *B. W. Rodenwold*

AH 455. Abridged Feeds and Feeding. A condensed course in the feeding of beef cattle, sheep, hogs, and horses, with special reference to principles of nutrition and farm practice. While brief, this course is complete in itself.

Prerequisite: AH 221. Elective to juniors and seniors in Agriculture except those majoring in Animal Husbandry; third term;

4 credits; 4 recitations; 1 two-hour laboratory period. Text: Henry and Morrison, Abridged Feeds and Feeding. *O. M. Nelson*

AH 459. **Pork Production.** Feeding and management of hogs with special reference to dairy farm conditions.

Prerequisite: AH 351. Elective in Dairy Husbandry; junior or senior year; first term; 3 credits; 3 recitations; 1 two-hour laboratory period. *A. W. Oliver*

AH 461. **Livestock Economics.** An advanced course in management, dealing particularly with economic and financial phases of livestock production.

Prerequisite: AH 352. Required in Animal Husbandry; senior or graduate year; third term; 3 credits; 3 recitations. *E. L. Potter*

AH 471. **Meats.** A study of meats of all classes of meat animals, covering butchering, location of and cutting of standard and retail cuts, judging meat raw and cooked, economics of meat production, sanitation and inspection, abattoirs, packing houses, and retail markets.

Elective in Animal Husbandry; senior or graduate year; second term; 2 credits; 2 three-hour laboratory periods. *A. W. Oliver*

AH 475. **Meats.** Same as AH 471 eliminating butchering.

Elective in Home Economics; second or third term; 1 credit; 1 three-hour laboratory period. *A. W. Oliver*

AH 481. **Seminar.** Weekly meetings in which papers on animal husbandry subjects are read and discussed. These papers are prepared under the supervision of the department, although considerable latitude is allowed in selection of subjects and manner of presentation.

Required in Animal Husbandry; junior or senior year; second term; 1 credit; 1 recitation. *B. W. Rodenwold*

AH 482. **Seminar.** A continuation of AH 481.

Required in Animal Husbandry; junior or senior year; third term; 1 credit; 1 recitation. *B. W. Rodenwold*

AH 491. **Investigative Work.** The student selects some topic for individual investigation by library methods or otherwise. The object is: first, to allow the student to study some particular subject in which he is especially interested; and second, to give him training in working out problems for himself, such as he will have to undertake after leaving college.

Elective in Animal Husbandry; senior year; any term; credits and hours to be arranged. *E. L. Potter*

AH 691. **Graduate Research.** Graduate students are given opportunity to carry on research work along any lines desired. The

department is well equipped for graduate work along lines of experimental feeding of hogs, sheep, and beef cattle, livestock management, and all forms of library work with either experiment station or general livestock literature.

Elective in Animal Husbandry; graduate year; any term; credits and hours to be arranged. *E. L. Potter*

VOCATIONAL COURSES

(Credits in vocational courses are non-collegiate.)

AH 11. **Vocational Stock Judging.** A thorough drill in the judging of beef cattle, sheep, swine, and horses, accompanied by text-book and lecture work on types and breeds of livestock.

Required in Vocational Curriculum; second term; 5 credits; 1 recitation; 5 two-hour laboratory periods. Fee \$0.25. Text: Vaughan, Types and Market Classes of Live Stock. *E. B. Osborn*

AH 21. **Feeding and Management.** Practical details of the feeding, care, and management of all kinds of livestock with special reference to practices in the West.

Required in Vocational Curriculum; third term; 5 credits; 4 recitations; 2 two-hour laboratory periods. Fee \$1.00. Text: Potter, Western Live Stock Management. *B. W. Rodenwold*

DAIRY HUSBANDRY

There are approximately 23,000,000 dairy cows in the United States at the present time. It is estimated that one-sixth of the food supply of the nation is derived from milk and its products. As the population of the country becomes more congested an increasing proportion of the animal food of the country will come from this source. Dairying is one of the most important agricultural industries of Oregon and the Pacific Northwest. Climatic conditions especially adapt this region to successful dairying.

The student who plans to specialize in dairying may elect either dairy production or dairy manufacturing. The courses in dairy production are designed primarily to fit the student for dairy farming, although he may enter upon extension, experiment station, or teaching work. The dairy manufacturing courses are designed to fit the student for creamery manager, buttermaker, cheesemaker, or other special phases of dairy manufacturing work or experiment station, teaching, inspection of dairy products, and commission work.

Equipment. The department has a herd of about 125 head of pure-bred dairy cattle representing the four major dairy breeds. These animals are available for both instructional and experimental purposes and each year are used in teaching judging alone to more

than 300 students. The herd is being developed in such a way as to be of unusual value in illustrating the important points in breeding dairy cattle. The quality of the herd is indicated by the excellent record made by thirty-four animals taken on the Northwest Fair Circuit in 1921, where they won more than 150 premiums, including twelve championships and four grand championships.

The department has a well-equipped manufacturing laboratory. The manufacture of butter, ice-cream, and cottage cheese, and the handling of market milk, are carried on continuously on a commercial scale. The student thus has opportunity to see this work done under practical conditions, and he receives his systematic instruction under the same conditions. A modern cold-storage plant has been recently installed, including an 8-ton ammonia compressor, a 20,000-lb., zero-degree butter storage room, and a 150-gallon five-degree ice-cream hardening room, together with necessary brine tanks.

COLLEGIATE COURSES

DH 200. Elements of Dairying. Fundamental principles and correct practices of modern dairying; testing of milk and cream; principles of buttermaking; operation of farm separators.

Prerequisite: Ch 103. Required in Agriculture; sophomore year; each term; 4 credits; 3 lectures; 2 two-hour laboratory periods. Fee \$4.00. Deposit \$2.00. Reference texts: Stocking, Manual of Milk Products. Eckles and Warren, Farm Dairying.

H. N. Colman

DH 204. Advanced Testing. Theory and practice of the various tests used to determine the composition of milk, cream, butter, cheese, and condensed milk in factories; tests for adulterants and preservatives; methods of standardizing testing solutions. This course is prerequisite to the dairy manufacturing subjects.

Prerequisite: DH 200. Required in Dairy Husbandry; elective in Agriculture; junior or senior year; first term (or optional in sophomore year, third term); 3 credits; 1 lecture; 2 two-hour laboratory periods. Fee \$3.00. Deposit \$2.00. Text: Farrington and Woll, Testing Milk and Cream.

V. D. Chappell

DH 301. Market Milk. To train for the production of market milk and for work in city milk plants and as milk inspectors. Distribution problem of the small town and city; methods of buying, standardizing, and distributing milk from the point of view of the plant owner or manager.

Prerequisite: DH 204. Required in Dairy Husbandry; third term; 3 credits; 2 lectures; 1 two-hour laboratory period. Fee \$2.00. Deposit \$1.00. Reference text: Parker, City Milk Supply.

H. N. Colman

DH 302, 303. **Commercial Buttermaking.** This subject is taught from the point of view of the inside operation of the creamery. The instruction includes the theory and practice of buttermaking and the operation of creamery equipment.

Prerequisite: DH 204. Required in Dairy Husbandry; first and second terms; 3 credits each term; 2 lectures; 1 four-hour laboratory period. Fee \$3.00. Deposit \$2.00. Text: Hunziker, *The Butter Industry*.
V. D. Chappell

DH 304. **Dairy Products Judging.** Judging of butter, cheese, and milk with score cards; discussion of defects.

Elective; third term; 1 credit; 1 two-hour laboratory period. Fee \$2.00.
V. D. Chappell

DH 351. **Judging Dairy Cattle.** The correlation of the form of dairy cattle with milk production; gross breed characteristics; comparative judging, terminology of the show ring, and fitting for show.

Prerequisite: AH 111. Required in Dairy Husbandry (junior or senior year; optional in sophomore year); third term; 3 credits; 3 two-hour laboratory periods. Fee \$0.50.
R. C. Jones

DH 352. **Dairy Herd Management.** History and characteristics of the breeds of dairy cattle and their adaptability to various conditions; the selection of a breed; development of a herd; keeping of records; raising calves and heifers; the principles of feeding dairy cattle.

Prerequisite: AH 351. Required in Dairy Husbandry; elective in Agriculture; second term; junior year; 3 credits; 3 lectures.

P. M. Brandt

DH 401. **Cheesemaking.** Theory and practice of cheesemaking; manufacture of Cheddar cheese; practice in the manufacture of the common soft types, including cottage, Neufchatel, and club; the fundamental scientific principles of chemistry and bacteriology involved; judging cheese.

Prerequisite: DH 204. Required in Dairy Husbandry; elective in Agriculture; senior year; second term; 4 credits; 2 lectures; 1 eight-hour laboratory period. Fee \$3.00. Deposit \$2.00. Text: Thom and Fiske, *The Book of Cheese*.
V. D. Chappell

DH 402. **Ice-cream and Condensed Milk.** The manufacture and sale of ice-creams and ices; manufacture of condensed milk; emphasis

on the relation of these industries to each other and to the dairy industry in general.

Prerequisite: DH 200. Elective; senior year; third term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$4.00. Text: Frandsen and Markham, Manufacture of Ice-creams and Ices.

V. D. Chappell

DH 403. Factory Organization and Management. Taught from the standpoint of the factory owner or manager, correlating all the practices taught in factory methods with the problem of factory management. Leaks, efficiency, selling, etc.

Elective; senior year; first term; 4 credits; 3 lectures; 1 laboratory period. Fee \$1.00.

V. D. Chappell

DH 451. Dairy Judging Team. To train students for participation in intercollegiate dairy cattle judging contests.

Prerequisite: DH 351. Elective; first term; 2 credits; several laboratory periods a week and short trips to farms. Fee \$0.50.

R. C. Jones

DH 452. Breeding Dairy Cattle. The application of the principles of genetics to the breeding of dairy cattle; selecting breeding animals; planning the breeding policy of a herd; study of pedigrees.

Prerequisite: ZP 351. Required in Dairy Husbandry; elective in Agriculture; senior year; second term; 3 credits; 3 lectures. Fee \$0.50. Reference text: Mumford, The Breeding of Animals.

R. C. Jones

DH 453. Milk Production. A further study of feeding for milk production; more detailed study of various feeding standards and recent feeding investigations; special problems.

Prerequisite: DH 352. Required in Dairy Husbandry; elective in Agriculture; senior year; third term; 3 credits; 3 lectures.

P. M. Brandt

DH 454. Dairy Products Judging Team. To train students for intercollegiate products judging contests.

Prerequisite: DH 304. First term; 1 credit; 1 two-hour laboratory period.

V. D. Chappell

DH 480. Seminar. The object of this course is to train the student to do independent work and to develop the spirit of research. Each student prepares papers and discussions on recent scientific work.

For senior and graduate students; 1 credit; 1 recitation.

P. M. Brandt

DH 490, 491, 492. Special Studies. Students who have demonstrated their ability to do independent work may pursue special

studies along various lines of investigation. This may be under the supervision of various members of the staff. Credit to be arranged.

P. M. Brandt, V. D. Chappell, R. C. Jones

DH 691, 692, 693. **Research.** Graduate students who desire to pursue advanced work may take up problems which they are qualified to study. Credit to be arranged.

P. M. Brandt, V. D. Chappell, R. C. Jones

VOCATIONAL COURSES

(Credits in vocational courses are non-collegiate.)

DH 11. **Buttermaking.** The principles of creamery buttermaking; construction, management, and care of the creamery; a comparison of the various methods commonly used in the manufacture of butter in creameries; practice in sampling and grading cream; pasteurization and ripening of cream; churning and packing butter.

Required in Dairy Manufactures Short Course; 5 credits; 3 lectures; 3 four-hour laboratory periods. Fee \$2.00.

V. D. Chappell

DH 12. **Cheesemaking.** The commercial manufacture of Cheddar cheese, covering the process in detail; a study of other varieties of cheese; factory management and construction; practice in making Cheddar and other cheeses; records kept of the different operations to note their effect on the finished products.

Required in Dairy Manufactures Short Course; 3 credits; 3 lectures; 1 six-hour laboratory period. Fee \$1.00.

V. D. Chappell, L. B. Zeimer

DH 13. **Ice-cream Making.** The preparation of mixes for various frozen products by different formulas; freezing, packing, and sale of frozen products.

Required in Dairy Manufactures Short Course; 2 credits; 2 lectures; 1 three-hour laboratory period. Fee \$1.00. *V. D. Chappell*

DH 14. **Factory Management.** A discussion of the problems of the business management of a creamery. A help to the man who is a creamery manager.

Required in Dairy Manufactures Short Course; 2 credits; 2 lectures. *V. D. Chappell*

DH 15. **Creamery Tests.** Advanced work in the use of the Babcock test; short cuts and conveniences for rapid and efficient testing; rapid tests for adulterants and preservatives; curd, acidity, and sediment tests.

Required in Dairy Manufactures Short Course; 1 credit; 1 lecture; 1 two-hour laboratory period. Fee \$1.00. *V. D. Chappell*

DH 20. Farm Dairying. The history and development of the dairy breeds and their adaptability to various economic conditions; how to manage a dairy herd as a part of the operations on a general farm; selection of the cows and herd sire; calf raising; keeping records of the herd; feeding for milk production; testing milk and cream, and work with separators.

Required in Vocational curriculum in Horticulture; 3 credits; 2 lectures; 1 two-hour laboratory period.

H. N. Colman

DH 21, 22. Vocational Dairy Stock Judging. Judging dairy cattle; testing milk; pedigree work; feeding dairy cattle; official testing; record keeping; types and breed characteristics of dairy cattle.

Dairy Herdsman's Course; second and third terms; 2 recitations; 2 lectures; 3 two-hour laboratory periods. Fee \$2.00 each term.

C. A. Henderson

DH 40, 41. Dairy Barn Practice. Feeding and caring for dairy cows under barn conditions. Each student is assigned five cows, a number of calves, and other work with dairy cattle, to be performed under direction of instructors.

Dairy Herdsman's Course; second and third terms. Fee \$3.00 each term.

C. J. Pollock

FARM CROPS

This department deals with the problems of production, improvement, marketing, manufacture, and uses of each of the field crops produced for food, forage, textile, and special purposes. The purpose of the work is primarily to teach students scientific, practical, and economical methods of crop production and improvement that may be put into actual use on the farm. In addition the courses are so arranged that men may fit themselves for civil service positions in agronomy, forage crops, grain standardization, plant breeding, crop marketing, etc., or for experiment station, extension, or teaching work. The object is to turn out men with broad training along general lines and well finished in Farm Crops. Considerable flexibility in electives is allowed in order to meet special needs of individual students.

Numerous Farm Crops graduates are occupying technical positions involving considerable responsibility. The field is a large one and deals principally with well-known and staple crops that are constantly in use and in demand. The work is closely associated with the daily food supply and is of importance to all students of Agriculture, whether seeking a salaried position or expecting to engage in the operation or management of a farm.

Equipment. The department has excellent recitation rooms and well-equipped laboratories. The Experiment Station plots offer excellent opportunities for field study and make possible extensive collection of valuable material for class work. A large collection of the best books, periodicals, etc., dealing with the subject, is available. The Oregon Agricultural College is excellently equipped for grain grading and inspection work; the new crop inspection course is a marked improvement over anything heretofore offered.

COLLEGIATE COURSES

FC 100. Crop Production. Fundamental principles of economic crop production; storage, marketing, and uses of leading cereal, forage, and special field crops; production costs; methods of improvement; crop rotations; and weed control methods. A course of foundation principles, prerequisite to all Farm Crops courses in the degree curriculum except FC 351 and 361.

Required in Agriculture; freshman year; any term; 5 credits; 5 lectures; 1 recitation; 1 two-hour laboratory period. Fee \$0.75. Text: Montgomery, *Productive Farm Crops*.

G. R. Hyslop, C. C. Ruth, J. R. Nevius

FC 231. Forage Crops and Root Crops. The production, handling, storage, marketing, and uses of forage; reseeding and care of range; development and maintenance of pasture; silage and hay making; soiling crop rotations; root-crop production; cost comparison of different crops.

Elective in Agriculture; sophomore or junior year; third term; 3 credits; 3 lectures; 1 recitation. Fee \$0.50. Text: Piper, *Forage Crops*.

G. R. Hyslop

FC 311. Cereal Production. A thorough study of the production and uses of cereals and allied grains from seed to consumer; varieties; distribution; adaptability; best production methods; markets; manufacture and use of cereals; cereal judging; effects of seed treatment; studies of material in the field.

Elective in Agriculture; junior year; first term; 5 credits; 4 recitations; 2 two-hour laboratory periods. Fee \$0.75. Texts: Carleton, *Small Grains*. Montgomery, *The Corn Crop*. *C. C. Ruth*

FC 314. Potato Growing. Potato production; improvement; storage; cost; marketing; distribution; uses; experimental work; varietal studies and identification; judging and scoring.

Elective in Agriculture; junior or senior year; first term; 2 credits; 1 lecture; 1 recitation; 1 two-hour laboratory period. Fee \$0.50.

J. R. Nevius

FC 341. Crop Improvement. Practical improvement of farm crops as to quality and yield; field selection; variety testing; head, hill, and ear-to-row methods; multiplication; pure-seed production; hybridization and fundamental plant-breeding laws applicable to practical crop improvement; laboratory and field work.

Elective in Agriculture; junior year; third term; 5 credits; 4 lectures; 1 three-hour laboratory period. Fee \$0.75. Text: Hayes and Garber, *Breeding Crop Plants*. *C. C. Ruth*

FC 351. Seed Testing. A study in seed identification and germination; seed legislation; standard methods of seed testing; seed grades and standards. A course for students preparing for private, state, or Federal seed-testing work. Men and women having a good knowledge of systematic Botany and some knowledge of seed production may take this course.

Prerequisite or companion course: FC 432. Elective in Agriculture, Home Economics, and Commerce; junior or senior year; second term; 2 credits; 2 three-hour laboratory periods. Fee \$0.75. *J. R. Nevius*

FC 361. Weed Eradication. Lectures and reference work on weed types and their habits of growth; weed legislation; practical methods of prevention, control, and eradication; special attention to noxious, persistent, perennial, and poisonous weeds of ranch and range.

Elective in Agriculture; junior or senior year; third term; 2 credits; 2 lectures. *J. R. Nevius*

FC 411. Crop Efficiency. The production, storage, and marketing of farm crops; comparison of methods leading to cheaper and more efficient production; analysis of net results; crop adaptability and its relation to substitutes and competing markets; relation of preparatory methods to returns; cropping systems and crop rotations; crop specialization; crop storage; fixation; marketing of farm crops; export and import regulations; crop statistics, their value and use; disposal of crop by-products and other problems affecting successful production.

Required in Farm Crops; elective to others in Agriculture; senior year; third term; 5 credits; 5 lectures. Fee \$0.50. *G. R. Hyslop*

FC 414, 415, 416. Advanced Crop Work. Lectures or laboratory work, or both, to groups of students desiring additional work along special lines of crop production not treated fully in other courses, or for students desiring to carry on advanced work or investigation beyond that outlined in undergraduate courses. Individual students are assigned to some practical problem involving experimental or research work and the preparation of a thesis.

Elective in Agriculture; senior year; three terms; 3 to 5 credits each term. Fee to be arranged. *G. R. Hyslop*

FC 421. Crop Inspection. The inspection, grading, and valuation of cereals, forage, potatoes, beans, seeds, stock feeds, and miscellaneous agricultural commodities according to Federal, state, and other adopted standards; theory and practice of grade fixation and application. A course for people buying or selling agricultural commodities, grain supervisors, samplers, inspectors, warehousemen, millers, and others.

Elective in Agriculture; senior year; second term; 5 credits; 3 lectures; 3 two-hour laboratory periods. Fee \$1.00.

C. C. Ruth, J. R. Nevius

FC 432. Seed Production. Principles and special methods of production, distribution, and use of seed crops of grasses, alfalfa, clover, and other forage legumes; field beans, horse beans, soy beans, peas, and other food legumes, and other special seed crops. Seed inspection, seed certification, and seed legislation.

Elective in Agriculture; senior year; first term; 3 credits; 2 lectures; 1 recitation; 1 two-hour laboratory period. Fee \$0.75.

G. R. Hyslop

FC 441. Advanced Crop Breeding. An advanced course dealing with the theory and technique of breeding field crops; transmission of characters; hybridization; variability and its measurement; behavior of characters of specific crops. This course is especially for students expecting to make a business of seed production and improvement and for those wishing to enter Federal or experiment station work in crops.

Elective in Agriculture; senior year; first term; 3 credits; 3 recitations. Fee \$0.50.

C. C. Ruth

FC 691, 692, 693. Graduate Work. Candidates for advanced degrees majoring in Farm Crops are expected to complete from 24 to 32 credits of work on some specific problem of a practical nature, requiring careful research work. Results of laboratory and field work, together with a study of the literature of the subject must be embodied in a suitable thesis.

Elective in Agriculture; graduate year; three terms; credits and fees to be arranged.

G. R. Hyslop

VOCATIONAL COURSES

(Credits in vocational courses are non-collegiate.)

FC 10. General Farm Crops. Practical production, improvement, and marketing of farm crops for grain, forage, cover, and special purposes. A brief course combining the practical features of cereals,

forage crops, and seed production, with special attention to north-western conditions.

Required in Vocational Curriculum; second term; 5 credits; 3 lectures; 2 laboratory periods. Fee \$0.75. Text: Wilson and Warburton, *Field Crops*. *J. R. Nevins*

FC 11. **General Farm Crops.** Lectures for horticultural students. Same as FC 10, except laboratory omitted.

Required in Vocational Curriculum in Horticulture; third term; 3 credits; 3 lectures. Fee \$0.25. Text: Wilson and Warburton, *Field Crops*. *J. R. Nevins*

FC 13. **Crop Marketing, Inspection, and Valuation.** Grading and marketing grain, hay, potatoes, seeds, feeding stuffs, mixed feeds, and miscellaneous agricultural commodities; crop and feed valuation. A course for men desiring to know crop values or wishing to become grain samplers, state inspectors, or grain graders and testers for commercial firms. (Given only to groups of ten or more students.)

Elective to Vocational students; second term; 5 credits; 3 lectures; 2 laboratory periods. Fee \$1.00. *R. G. Larson*

FARM MANAGEMENT

Farm Management deals with the organization, equipment, and operation of the farm as a business enterprise. Its aim is to correlate and synchronize the operations in the various phases of production on the farm in such a way as to result in a smoothly-running, efficient plant from which maximum returns may be obtained. The courses in Farm Management are designed to give the student a broad, well-rounded training in all the phases of Agriculture that will prepare him for successful production, with emphasis laid upon those studies which will fit him best for successful management of the farm. They also prepare students for professional work as farm managers, county agriculturists, extension specialists, farm appraisers, instructional and investigational workers, etc.

Equipment. The Farm Management laboratory and seminar room are provided with drafting tables and instruments, surveying instruments, original data and record sheets, lantern slides and charts, and a complete periodical and bulletin reference library. Investigational work carried on in many different parts of the State offers the advanced student excellent opportunities for field work.

COLLEGIATE COURSES

FMg 302. **Farm Management.** Major factors affecting the labor income; types of farming; selection and purchase of the farm; capital investment and distribution; use of credit; quality and diversity of

business; farm leases and rental methods; man and horse labor efficiency; farm equipment costs and duty; farm and farmstead layout; cropping systems and crop rotations; maintenance of soil fertility; cost of production; use of farm records and accounts; marketing in relation to farm management; typical successful and unsuccessful farms; getting started in the farming business. Short field trips. Advanced Farm Management may be taken accompanying this course.

Required in Agriculture; junior year; second term; 4 credits; 3 lectures; 1 recitation; 1 two-hour laboratory period. Fee \$1.00.

H. D. Scudder

FMg 303. Farm Management. A continuation of FMg 302 in which the minor factors in successful farm management are discussed.

Prerequisite: FMg 302. Elective; junior year; third term; 3 credits; 2 lectures; 1 two-hour laboratory period. Fee \$0.50.

H. D. Scudder, C. Wilkes

FMg 304. Farm Management Field Course. A course for students specializing in Farm Management. Practical application of the principles of Farm Management through direct study and analysis in the field of some of the most successful farms in the State; training in regular farm-management survey work. In the summer of the junior year the students registered in this course, accompanied by the instructor, spend four or five weeks in the field in representative sections of the State, devoting about one week to each section. Camp equipment is provided and field camp maintained throughout the period, the student paying only his living and traveling expenses.

Prerequisite: FMg 302. Elective; junior year; summer term; 8 credits; field work.

H. D. Scudder, C. Wilkes

FMg 322, 323, 422, 423. Farm Management Seminar. Junior, senior, and graduate students majoring in Farm Management meet together in seminar work. The class is organized and conducted by the students, constituting their technical association in Farm Management. Discussion of investigational methods and results; inquiry into opportunity and requirements for professional and practical work in Farm Management; presentation of management methods by successful farmers in the State, etc. Each year a three-days' field trip is taken to successful farms.

Required in Farm Management; junior year; second and third terms; $\frac{1}{2}$ credit each term; fortnightly meetings.

H. D. Scudder

FMg 411. Farm Organization. Application of the principles of Farm Management to the organization of the individual farm; methods of measuring the efficiency of any given farm; organizing a farm

business; the standards for farm planning; efficiency practices in production and operation; planning production programs, cropping systems, and fertility balances; labor programs; livestock, machinery, and building equipment; methods of increasing productive business; methods of financing, etc. Field trips. This course gives preparation for the actual field problems undertaken in Advanced Farm Management.

Prerequisite: FMg 302. Elective; senior year; first term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$0.50.

H. D. Scudder, C. Wilkes

FMg 412. Semi-arid Farm Management. A study of the farm-management problems of the dry farmer and irrigation farmer; preparation of management plans dealing with forms of production, profitable enterprises, fertility rotations, equipment, labor distribution, marketing, etc., as adapted to semi-arid conditions; when possible, a field excursion into the dry farming and irrigated sections of Oregon for farm survey work.

Prerequisite: FMg 302. Elective; senior year; second term; 2 credits; 2 lectures.

H. D. Scudder

FMg 422, 423. Farm Management Seminar. See FMg 322, 323, 422, 423.

FMg 433. Enterprise Costs and Profits. A study of production costs and enterprise profits; methods of securing agricultural costs; tabulation, analysis, and interpretation of cost data; discussion of forms of complete cost records and enterprise records adapted to different types of farming; study of actual production, operation, maintenance, and management costs under Oregon conditions and comparative costs and profits of the chief farm enterprises in this State; relations of price to cost and profits; analyses of new or questionable enterprises; field study of prominent and profitable farm enterprises.

Prerequisite: FMg 302. Elective; senior year; third term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$0.50.

H. D. Scudder, C. Wilkes

FMg 441, 442, 443. Advanced Farm Management. Field work on individual problems such as preparation of detailed organization and management plans for specific farms; efficiency testing of groups of farms; field studies and costs and profits of specific farm enterprises; field study of specific farm practices and their efficiency; studies in equipment and building improvement; farm management factor studies, etc., directed and reviewed through weekly round-table discussions.

Prerequisite: FMg 302. Elective; senior year; three terms; 3 to 5 credits each term; all laboratory and field work. Fee \$1.00 each term.

H. D. Scudder, C. Wilkes

FMg 452. **Land Economics.** Land resources of the State and of the United States and their utilization; methods of land clearing and costs; land values; types of farming adapted to different regions; the land settlement problem and settlement methods and opportunities in this and other countries; land tenure in the United States and in Oregon with comparisons of ownership and tenantry.

Prerequisite: FMg 302. Elective; senior year; second term; 2 credits; 2 lectures.

H. D. Scudder

FMg 463. **Accredited Farm Work.** Senior or graduate students who have taken the regular four-year major in Farm Management or its equivalent and who have previous good records of practical experience in farming and the necessary personal qualifications as to character, industry, etc., have opportunity in this course as workmen on "accredited farms"—farms operated by progressive and successful farmers—both for actual experience and to study the management of these farms, making written reports, and where advisable, preparing reorganization plans. Work is inspected by the instructor and reported upon by the farm owner. College credit given the student depends upon extent and quality of practical work and written reports.

Prerequisite: FMg 302. Elective; senior or graduate year; 8 to 16 credits.

H. D. Scudder

FMg 601, 602, 603. **Graduate Work.** Under this head all graduate work in Farm Management is registered. Graduate work in this field may be along either of two lines.

A. Research. For the student who wishes to prepare himself for investigational and instructional or extension work in Farm Management. With the development of Farm Management throughout the country as a distinct science or branch of Agriculture, many opportunities are opening up for men in instructional or investigational or extension work in both state and Federal service. Problems of wide diversity and great practical interest offer attractive thesis subjects. The minor courses required in connection with research problems are taken in residence one or more terms and the major work in residence or in the field.

B. Practical Management. For the student who wishes to prepare himself more thoroughly as a farm manager, a sufficient period registered in the course FMg 463, Accredited Farm Work, combined with several terms' work in residence, is suggested.

Elective; graduate year; first term; credits to be arranged.

H. D. Scudder

VOCATIONAL COURSES

(Credits in vocational courses are non-collegiate.)

FMg 12. Practical Farm Management. The principles and factors in Farm Management that are most important to the practical farmer are discussed in this course. The laboratory work deals with the solution of the home-farm problems.

Vocational Curriculum; any term; 3 credits; 3 recitations; 1 laboratory period. Fee \$0.50. *C. Wilkes*

FMg 13. Farm Planning and Organization. Practical application of the principles learned in the preceding course, to the planning or replanning of the student's home farm or an assigned farm. Plans include the selection of the most profitable industries and laying out of the farm and farmstead to give maximum efficiency in operation, and provide in detail development programs of the farm as to improvements, equipment, livestock production, cropping plan, fertility, labor, financial programs, etc.

Vocational Curriculum; third term; 2 credits; 2 laboratory periods. Fee \$0.50. *C. Wilkes*

FARM MECHANICS

The purpose and scope of the work in **Farm Mechanics** are indicated fully in the description of courses given below.

Equipment. A large equipment of the most up-to-date farm machinery is loaned the institution by the leading implement dealers of the Northwest, so that the student has constantly before him and is working with and studying the very best farm machines of all types. The large, well-lighted gas-engine laboratory contains many different makes of gas engines, trucks and tractors, and accessories, such as sectional carburetors, magnetos, and lubricators. In addition to this equipment is a considerable selection of grain-cleaning and crushing machines, farm lighting plants, pumps, rams, and water supply equipment.

The laboratory is also equipped with two large brakes for the testing of tractors, dynamometers for determining the draft of the field machines and the draw-bar horse-power of tractors, a gas and steam indicator for determining the efficiency of farm engines and tractors, and an electric motor and watt meter, so that the student may become familiar with the power requirements of belt-driven farm machines. Many tractors of the latest design are available for use of the students in the laboratory and in the field.

COLLEGIATE COURSES

FM 111. Farm Motors. The principle, construction, operation, and adjustment of farm motors and accessories, carburetors, magnetos, ignition, governing, cooling, and lubricating systems, fuels and

oils, testing, timing, and trouble hunting of farm gas motors, such as are used in the tractor, truck, automobile, and stationary outfits; adaptation of electricity to farm uses.

Elective; sophomore year; any term; 3 credits; 3 two-hour laboratory and recitation periods. Fee \$2.00. *W. J. Gilmore*

FM 112. Farm Tractors and Farm Trucks. Detailed study and operation of the gas, steam, and electric motor, including the stationary gas and steam engine, tractor, truck, and automobile; indicated, brake, and draw-bar horse-power tests of tractors; tractor operation in the field.

Prerequisite: FM 111. Freshman or sophomore year; any term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$3.00.

A. E. Jensen

FM 121. Farm Motor and Farm Implement Repair. Repair of tractor, truck, and automobile motors and farm implements.

Prerequisite: FM 111. Elective; freshman or sophomore year; any term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$3.00.

A. E. Jensen

FM 131. Farm Implements. The latest horse- and tractor-drawn farm implements, plows and their adjustments and hitches, cultivating machinery, seeding and planting machines, hay and grain cutting machines, and manure spreaders; rope tying and splicing; fences and roads; setting up and adjustment of machines.

Elective; sophomore, junior, or senior year; any term; 2 credits; 2 two-hour laboratory and recitation periods. Fee \$1.00.

W. J. Gilmore

FM 141. General Farm Repairs. Babbitting and fitting bearings, soldering, belt lacing, key fitting, pipe fittings, and pipe cutting and fitting, welding and tempering, repairing, adjusting, and painting farm machines.

Elective; freshman or sophomore year; any term; 2 credits; 1 recitation; 1 three-hour laboratory period. Fee \$2.00.

A. E. Jensen

FM 280. Graphic Methods. Plotting and charting of figures and statistics relating chiefly to agricultural subjects; analyzing such material, putting it into a form which is easily read and understood, and charting the material in an attractive manner; use of drawing instruments. Prerequisite to FM 380.

Elective; sophomore year; any term; 2 credits; 2 three-hour laboratory periods. Fee \$0.50.

FM 332. Crop Handling Equipment. A detail study of all machines used in handling of crops in field, on the farm, and in

storage; fanning-mills; grain graders and crushers; grain separators and combines; farm elevators; racks; balers; silage cutters. This course is especially designed for students in Crop Production, and for students of the grain farms who desire a knowledge of adjusting and handling of the thresher and combine.

Elective; junior or senior year; second or third term; 2 credits; 1 lecture; 1 three-hour laboratory period. Fee \$1.50.

W. J. Gilmore

FM 341. Concrete Construction. The selection, proportioning, mixing, and placing of concrete for floors, sidewalks, machine bases, and foundations. The building of forms is a part of the work.

Elective; junior or senior year; third term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$2.00. *A. E. Brandt*

FM 351. Farm Conveniences. Installation of farm water-supply systems, and farm electric-lighting plants; pipe fitting and plumbing; meter reading; wells, pumps, hydraulic rams, and storage systems. Open to either men or women who desire a knowledge of modern farm conveniences with a view to installation.

Elective; junior or senior year; first or third term; 2 credits; 1 recitation; 1 three-hour laboratory period. Fee \$2.00.

A. E. Brandt

FM 361. Land Clearing. Comparison of methods, leading to the cheapest and most efficient method of removing stumps, trees, logs, brush, and rock from land; lectures, recitations, laboratory exercises, and field demonstrations, dealing with dynamite and explosives, hand stump-pullers, horse pullers; tractor and donkey engine for removing stumps, char pitting, stump burning, and chemical treatment; what is being done in other states; clearing and leveling of sage brush and swamp lands.

Elective; junior or senior year; third term; 2 credits; 1 recitation; 1 three-hour laboratory period. Fee \$2.00. *A. E. Brandt*

FM 371. Dairy Mechanics. Proportioning and mixing of concrete for floors, sidewalks, and machine bases; study and operation of gas engines and accessories; pumps, steam boilers, and steam engines; firing and operating steam engines; flue repair; babbitting; soldering; pipe fitting; line shafts and belting. Especially adapted to the needs of the students in Dairying.

Elective; junior or senior year; first term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$2.00. *A. E. Jensen*

FM 372. Orchard Machinery. Construction, operation, and adjustment of orchard machinery, such as gas engine, pump, tillage

and seeding implements; orchard plowing and cultivation; demonstration of tractors for orchard work. Intended for students in Horticulture.

Elective; junior or senior year; third term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$2.00.

W. J. Gilmore, A. E. Jensen

FM 373. Irrigation Farm Mechanics. This course is intended for students interested in farm irrigation, and is designed for junior and senior students in Soils. It deals with the farm gas and electric motor, pumps, concrete construction, and the study and installation of farm pumping plants.

Elective; junior or senior year; third term; 3 credits; 1 recitation; 2 laboratory periods. Fee \$2.00.

W. J. Gilmore

FM 380. Farm Structures. Planning of all farm buildings, fences, etc.; building materials; foundations; construction; lighting; ventilating; heating; costs; convenience of farm structures; plans and specifications; design and construction of farm racks, tanks, troughs, etc.

Prerequisite: FM 280. Elective; junior or senior year; any term; 1 recitation; 2 three-hour laboratory periods. Fee \$2.00.

FM 381. Advanced Farm Mechanics. This course is designed primarily to fit students for positions with tractor and implement companies as demonstrators or as service men. It is also of much value to those who intend to operate farm power equipment. Recommended to students having had FM 111, 112, and 121 and who feel need of further study of farm power equipment. Detail study of design of farm power equipment; practical field work; tractor and truck service. (A continuation of FM 112 and 121.)

Prerequisite: FM 111, 112, 121. Elective; any year; any term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$3.00.

A. E. Jensen

VOCATIONAL COURSES

(Credits in vocational courses are non-collegiate.)

FM 10. General Farm Mechanics. A vocational course in farm mechanics dealing with farm power machinery, farm implements, farm conveniences, farm concrete construction, and repair of farm equipment.

Required in Agriculture Vocational Curriculum; first term; 5 credits; 2 recitations; 3 three-hour laboratory periods. Fee \$3.00.

W. J. Gilmore, A. E. Brandt, A. E. Jensen

FM 11. Tractor and Tractor Implements. Selection, operation, care, adjustment, and repair of farm engines, tractors, and tractor

implements. This course is intended to train students as tractor operators.

Farm Mechanics Short Course; second term; 15 credits; 4 recitations; 11 three-hour laboratory periods. Fee \$20.00.

FM 12. Gas Engines and Tractors. A two-week course in farm engines and farm tractors taken up from the standpoint of a farmer who intends to purchase and operate a tractor, and feels the need of practical training. This course will be given in December, January, February, and March. Fee \$5.00.

FM 71. Creamery Mechanics. A presentation of the topics included under the course FM 371, adapted to needs of students in the Vocational Curriculum.

Elective in Agriculture Vocational Curriculum; any term; 3 credits; 3 three-hour laboratory periods. Fee \$2.00. *A. E. Jensen*

HORTICULTURE

The work in Horticulture includes instruction in Pomology, Olericulture, Floriculture, Landscape Gardening, School Gardening, and Horticultural Products. In these courses the student is first thoroughly grounded in the fundamentals, and is then allowed to specialize as he desires. He may thus fit himself for experiment station or government work or prepare for the many lines of horticultural business.

The courses consist of lectures, reference reading, field exercises, and laboratory work. Much stress is placed upon the practical phases of all the work. In all courses horticultural truths are illustrated by practice, whenever possible. Students are given field and laboratory exercises in all such operations as planting, seeding, budding, grafting, cultivating, thinning, pruning, harvesting, and spraying.

Equipment. The Horticultural wing of Agricultural Hall, Horticultural Products Building, the greenhouses, extensive orchards and gardens, the large campus containing good plant material, an ammonia-gas cold storage plant, and a very good library are at the service of the department. The laboratories are well equipped for giving instruction in spraying, plant propagation, and fruit packing, vegetable grading and crating, and systematic pomology. There are large lecture rooms, a drafting room, photography rooms, and a Horticultural Museum.

The Horticultural Products Building is the first of its kind in the United States. It is a two-story brick building, with full basement, in which work can be done on a commercial scale. There is a large canning room equipped with paring and slicing machinery,

sanitary preparation table, exhaust boxes, and a retort of 1,300-can capacity; a juice room equipped with hydraulic presses, settling vats, pumps, multiple drum, silver-lined filters, and bottling machine; and cold storage rooms to aid in the manufacture of fruit juices, ciders, and vinegar; a jelly and jam room equipped with machinery such as pulper and finisher, steam-jacketed kettles, and other machinery used in the manufacture of jellies, jams, glace, and maraschinos; and a commercial evaporating room containing a three-tunnel drier, a recirculated experimental tunnel, and special preparation machinery to aid in the preparation of evaporated and dehydrated products.

In addition to the extensive orchards and gardens of the College, the region is well provided with orchards, canneries, etc., which can be used in the laboratory work.

The department of Horticulture is well equipped for research work. The laboratories, the greenhouses, the experimental plots, and an excellent research library of scientific books and periodicals, facilitate effective investigation in the field of Horticulture.

COLLEGIATE COURSES

Hrt 100. Elements of Horticulture. This course is designed to give a student enough training in horticulture to enable him to care for the home orchard and garden as well as to understand some of the fundamentals of commercial orcharding and trucking. The orchard; budding; grafting; purchasing of nursery stock; planting the orchard; tillage; spraying; intercropping; pruning; planting and care of the garden; methods of vegetable growing.

Required in Agriculture; freshman year; any term; 5 credits; 2 lectures; 2 recitations; 2 two-hour laboratory periods. Fee \$1.00. Text: Sears, *Productive Orcharding*.

W. S. Brown, L. P. Wilcox, and assistants

POMOLOGY*

Hrt 311. Practical Pomology. A continuation of Hrt 100. Principles and practices of fruit growing; frost fighting; thinning; fertilizers; pollination; economics of fruit-farm management, etc.

Required in Pomology; junior year; first term; 3 credits; 2 lectures; 2 recitations.

H. Hartman

Hrt 312. Sub-tropical Pomology. This course takes up in detail the problems concerning the growing and marketing of such sub-tropical fruits as oranges, figs, olives, pineapples, etc. Offered in alternate years. Offered in 1922-23.

*Bot 312, *Fruit Diseases*, is required (junior year) of students specializing in Pomology.

Elective in Agriculture; junior or senior year; first term; 3 credits; 2 lectures; 2 recitations. *H. Hartman*

Hrt 313. Pruning Principles and Practices. Thorough training in the fundamental principles underlying pruning; including bud study; tree building; maintaining the vigor of trees; rejuvenation.

Required in Pomology; junior year; second term; 3 credits; 2 lectures; 2 recitations. Text: Kaine, Principles and Practices of Pruning. *W. S. Brown*

Hrt 314, 315. Orchard Practice. Laboratory work in which the student has actual practice in regular orchard and packing-house operations. The work includes tree planting, pruning, orchard heating, and the picking, grading, packing, and judging of fruits. These courses are required for those taking Hrt 311 and 313.

Required in Pomology; junior year; first and second terms; 1 credit each term; 1 three-hour laboratory period. Fee \$1.00 each term. *L. P. Wilcox and assistants*

Hrt 318. Sprays and Spraying. Compatability of spray mixtures; proper mixing of materials; development of spraying; dusts and dusting; examination of simple and complex spray machinery and spray accessories; spraying under field conditions.

Elective; junior year; third term; 2 credits; 1 lecture; 1 three-hour laboratory period. Fee \$1.50. *H. Hartman and assistant*

Hrt 361. History and Literature of Horticulture. Brief study of the history of horticulture; systematic survey of the literature of horticulture, acquainting the student with the various sources of horticultural knowledge.

Required in Pomology; junior year; third term; 3 credits; 2 lectures; 2 recitations. *H. Hartman*

Hrt 410. Commercial Pomology. The problems of handling fruit, including the picking, grading, and packing of fruits; study of the problems of transportation, storage, distribution, and marketing; planning of buildings for packing and storing of fruit.

Required in Pomology; senior year; second term; 5 credits; 3 lectures; 2 recitations; 1 two-hour laboratory period. *H. Hartman*

Hrt 412. Systematic Pomology. Principles underlying pomological nomenclature, variety and species, description, classification and identification of the more important fruit groups and their inter-relationship.

Required in Pomology; senior year; first term; 5 credits; 2 recitations; 4 two-hour laboratory periods. Fee \$3.00. Text: Hartman, Elements of Systematic Pomology. *H. Hartman*

Hrt 414. Viticulture. Problems pertaining to the growing, harvesting, and marketing of both American and European types of grapes; soils; locations; pruning; training; harvesting; grading; packing; storage, etc. Offered in alternate years. Not offered in 1922-23.

Elective in Agriculture; junior or senior year; first term; 3 credits; 2 lectures; 2 recitations. *H. Hartman*

Hrt 415. Small Fruit Culture. Problems connected with the growing, harvesting, and marketing of such fruits as the strawberry, currant, gooseberry, raspberry, blackberry, loganberry, and cranberry.

Elective in Agriculture; junior or senior year; second term; 3 credits; 1 lecture; 3 recitations. Text: Card, Bush Fruits.

L. P. Wilcox

Hrt 416. Nut Culture. Methods of growing, harvesting, curing, and marketing such nut crops as the walnut, filbert, almond, and pecan. Detailed laboratory study of the leading varieties of these nuts.

Elective in Agriculture; junior or senior year; second term; 3 credits; 2 lectures; 1 recitation; 1 two-hour laboratory period. Fee \$1.00. *H. Hartman*

Hrt 417. Orchard Practices and Management. Trips are taken to fruit farms near Corvallis and other places in the State. Studies made of practices in pruning, spraying, cultivation, marketing, etc. The management of fruit farms is gone into carefully. Maps and plans for fruit farms are made. Students registered only by appointment with the head of the department. Schedule by arrangement in four-hour periods.

Prerequisites: Hrt 314, 315, 316. Elective in Agriculture; senior year; third term; 3 credits; 1 recitation; 1 four-hour laboratory period. Fee according to cost of trips.

Hrt 418. Applied Plant Genetics. History and development of plant breeding with horticultural plants; methods used by breeders; clonal selection; varieties of plants; evolution and development of species and varieties of horticultural importance; selection; hybridization; graft hybrids; bud selection; disease resistance, etc.

Prerequisite: ZP 351. Elective in Agriculture; junior or senior year; third term; three credits; 2 lectures; 1 recitation; 1 two-hour laboratory period. Fee \$1.50. *H. Hartman*

Hrt 481, 482, 483. Seminar. Courses for senior and graduate students in Horticulture. Study is made of some of the advanced problems. Articles from the leading magazines on horticultural

subjects, as well as experiment station and Government publications, are reviewed.

Required in Horticulture; elective in Agriculture; senior year; three terms; 1 credit each term; 1 one-hour recitation.

Hrt 619. **Advanced Plant Genetics.** Special problems in plant breeding for graduate students. *E. M. Harvey*

VEGETABLE GARDENING

Hrt 221. **Vegetable Growing.** Fundamental study of methods of vegetable growing; planting and care of a vegetable garden as an integral part of every farm home; preparation for advanced courses in vegetable growing.

Required in Vegetable Gardening; elective in Agriculture; sophomore year; third term; 3 credits; 1 lecture; 1 recitation; 1 two-hour laboratory period. Fee \$0.50. Text: Green, Vegetable Gardening. *A. G. Bouquet*

Hrt 321. **Vegetable Seed Production.** The business of seed production is becoming yearly more important. The work offered in this course is designed both to enable the student to understand and practice methods used in contract seed production, and to acquaint him with the manner of improving for himself seed strains of vegetables grown for market or home use. Laboratory work consists of field practice in selection of stocks, harvesting, threshing, and cleaning seed, seed testing, etc.

Required in Vegetable Gardening; junior year; first term; 3 credits; 2 recitations, 1 two-hour laboratory period. Text: Brill, Farm Gardening and Seed Growing. *A. G. Bouquet*

Hrt 322. **Principles of Vegetable Gardening.** A continuation of Hrt 221. Problems of growers in field management of a commercial vegetable garden, including such subjects as vegetable soils, production of plants, distribution of crops, succession of crops, manures and fertilizers, methods of irrigation, spraying, etc.

Required in Vegetable Gardening; elective in Agriculture; junior year; second term; 3 credits; 2 recitations; 1 two-hour laboratory period. Texts: Watts, Vegetable Gardening. Corbett, Garden Farming. *A. G. Bouquet*

Hrt 323. **Practical Vegetable Gardening.** A continuation of Hrt 322. Study of methods used in the commercial production of vegetables for market; field and greenhouse work with lectures thoroughly to acquaint the student with proper methods and management; inspection of commercial testing grounds; trips to vegetable farms.

Required in Vegetable Gardening; junior year; third term; 3 credits; 2 recitations; 1 two-hour laboratory period. Text: Corbett, *Garden Farming*. *A. G. Bouquet*

Hrt 421, 422, 423. **Vegetable Forcing.** This work extends through the three terms of the college year, thus giving the student opportunity to observe fall, winter, and spring conditions as they relate to crops grown under glass. Vegetable greenhouse types and management, including relation of forcing vegetables to outdoor vegetable farming, types of vegetable greenhouses as related to crops produced, soil composition, fertilizing materials, systems of soil cropping, use of frames for fall and winter vegetables, soil sterilization, irrigation of vegetables under glass, etc. Crop production and marketing, especially as related to those vegetables suited to conditions of the winter and early spring months, such as leaf lettuce, spinach, cauliflower, French endive, rhubarb, asparagus, parsley, mushrooms, etc.; value of various crops from the standpoint of their usefulness and profit to the vegetable grower. Forcing of tomatoes and cucumbers; commercial vegetable production; varieties, variety characteristics, distances of planting, pruning and training methods, pollination studies, methods of mulching and watering, control of insects and diseases, harvesting, grading and marketing.

Required in Vegetable Gardening; senior year; three terms; 2 credits each term; 1 recitation; 1 two-hour laboratory period. Text: Watts, *Vegetable Forcing*. *A. G. Bouquet*

Hrt 424. **Systematic Olericulture.** Descriptions, nomenclature, and classifications of vegetables; a sufficient number of varieties of each vegetable studied so that the student may become acquainted with the more important groups of horticultural varieties; exercises in displaying and judging vegetables; assigned readings.

Required in Vegetable Gardening; senior year; first term; 1 credit; 1 two-hour laboratory period. *A. G. Bouquet*

Hrt 425. **Vegetable Marketing.** Principles and commercial practices of field harvesting, grading, and packing of vegetables; methods of marketing. Lectures, field work, farm and market visits; assigned readings.

Required in Vegetable Gardening; senior year; first term; 3 credits; 2 recitations; 1 two-hour laboratory period.

Hrt 426. **Vegetable Marketing.** Continuation of Hrt 425. Car loading, transportation, and distribution of truck crops, such as onion sets, cabbage, cauliflower, broccoli, melons, tomatoes, etc. Lectures, field work in loading and observation of car loads; assigned readings.

Required in Vegetable Gardening; senior year; second term; 3 credits; 2 recitations; 1 two-hour laboratory period.

Hrt 427. **Commercial Truck Gardening.** Commercial vegetable gardening, principally as related to methods of production for the general market and for canneries and dehydrators. A general review of vegetable gardening. Assigned readings.

Required in Vegetable Gardening; senior year; third term; 3 credits; 2 recitations; 1 two-hour laboratory period.

LANDSCAPE GARDENING

Hrt 231. **Landscape Gardening.** This course is designed to fit the needs of all students. Definite principles controlling layout and organization of different classes of property are developed. Enough drafting is required so that the student can express himself in a satisfactory manner. Study is made of problems in improvement work on home grounds, rural or urban, private estates, and small parks.

Required in Landscape Gardening; elective in Agriculture; sophomore year; first term; 3 credits; 2 two-hour drafting periods; 2 lectures; 1 recitation. *A. L. Peck*

Hrt 331, 332, 333. **Plant Materials.** This work is intended to familiarize the student with trees, shrubs, vines, and perennials; their peculiar habits of growth, requirements, and care. Special attention is given to foliage, color, form, adaptation, hardiness, and effects when grouped. Students are advised to take Hrt 231 as a preliminary.

Elective in Agriculture; junior year; three terms; 3 credits each term; 3 two-hour laboratory periods. *A. L. Peck*

Hrt 337. **History and Literature of Landscape Gardening.** Designed to give the student a good idea of the development of the art, and to bring him in touch with the literature, past and current, that is related to the subject.

Required in Landscape Gardening; junior year; first term; 3 credits; 3 recitations. *A. L. Peck*

Hrt 431. **Theory and Design.** A study of the best works of prominent landscape architects, together with a wide range of collateral reading. Private estates, public parks, and playgrounds, boulevards, and cemeteries are carefully studied. Reports, such as those of park boards and landscape architects, are studied.

Prerequisites: Hrt 231, 331, 332, 333. Required in Landscape Gardening; elective in Agriculture; senior year; first term; 4 credits; 1 recitation; 3 three-hour laboratory periods. *A. L. Peck*

Hrt 432. Theory and Design. A continuation of Hrt 431, in which a large portion of the time is devoted to preparation of planting plans. Outside time is required for collateral reading.

Prerequisite: Hrt 431. Required in Landscape Gardening; senior year; second term; 4 credits; 12 hours laboratory work.

A. L. Peck

Hrt 434, 435. Field Practice. Courses in practical problems brought in from the field. The student makes surveys, does the engineering work incidental to the solving of the problem, makes general plans, planting plans, grading plans, details, etc.

Prerequisites: Hrt 231, 331, 332, 333. Required in Landscape Gardening; senior year; first and third terms; 4 credits each term; 12 hours laboratory work.

A. L. Peck

Hrt 437. Town Planning. The underlying ideas of municipal, town, and village improvement; literature and reports studied; town problems discussed; methods of procedure in town improvement worked out.

Required in Landscape Gardening; senior year; third term; 4 credits; 1 recitation; 9 one-hour laboratory periods.

FLORICULTURE

Hrt 241. Plant Propagation and Greenhouse Practice. This course aims to meet the needs of students who expect to be engaged in agricultural research requiring an understanding of greenhouse practices in the handling of soils, water, sunlight, heat, and ventilation. Methods of propagating plant life are studied. Students are required to grow their own stock in the houses and to care for it throughout the term. Limited to twenty-five students.

Elective in Agriculture; sophomore year; second term; 3 credits; 1 lecture; 1 recitation; 2 two-hour practicums. Fee \$1.50.

A. L. Peck

Hrt 341. Greenhouse Construction. A course especially for students specializing in Floriculture and Vegetable Gardening. The problems connected with the building of greenhouses, hotbeds, and cold-frames; selection of materials; the various systems of heating and ventilating; value of the various types of buildings; lectures and laboratory exercises in greenhouses and drafting room.

Elective in Agriculture; junior year; second term; 4 credits; 1 lecture; 9 one-hour laboratory periods.

Hrt 441, 442, 443. Greenhouse Crops. Actual work in the greenhouse. Propagation; culture; soils; ventilation; watering;

heating; as wide a range of experience as possible in growing of plants used in the florist trade.

Prerequisite: Hrt 241. Elective in Agriculture; senior year; three terms; 3 credits each term; 9 hours laboratory work.

A. L. Peck

HORTICULTURAL PRODUCTS

The work in Horticultural Products is designed to fit the student to enter fields of commercial canning, dehydration, jam, jelly, and juice manufacture and, in addition, to prepare him for research work along these lines. All laboratory work is conducted on a commercial scale, and the student is trained to operate and repair machinery used in all manufacturing work.

Instruction in canning embraces grading, blanching, siruping, exhausting, sealing, sterilizing (both in open bath and retort), labeling, and storage. Emphasis is given the making of sirups and brines. In dehydration, instruction covers the drying of prunes, pears, apples, and other fruits and vegetables. Students have an opportunity to operate both the farm drier and the commercial dehydrating tunnel, where conditions are kept under constant control. Special opportunity is offered also to those wishing work on problems of by-products manufacture.

Students expecting to specialize in Horticultural Products are requested to take courses in Canning Bacteriology, Horticultural Products Chemistry, Pomology, Business Organization and Management, Cost Accounting, and Seminar.

Hrt 351. Principles of Canning Fruits. This course is designed to teach by lectures, recitations, and laboratory exercises the fundamental principles of canning fruits, method of preparation, grading, siruping, exhausting, sealing, cooking, cooling, and storing. It covers a working knowledge of methods used in commercial canning.

Required in Horticultural Products; first term; junior year; 3 credits; 1 lecture; 1 recitation; 1 four-hour laboratory period. Fee \$5.00.

J. C. Bell

Hrt 352. Principles of Canning Vegetables. Continuation of Hrt 351. Principles of canning vegetables.

Required in Horticultural Products; junior year; second term; 3 credits; 1 lecture; 1 recitation; 1 four-hour laboratory period. Fee \$5.00.

J. C. Bell

Hrt 353. The Canning Plant and Its Equipment. The purpose of this course is to study the canning plant, its location, general plan of construction, equipment, and operation. Students are given training in designing plants and estimating costs. Laboratory work

covers the construction and adjustment of canning machinery. Field trips to canneries to study their construction.

Required in Horticultural Products; junior year; third term; 3 credits; 1 lecture; 1 recitation; 1 four-hour laboratory period. Fee \$5.00. *J. C. Bell*

Hrt 363. Food Products. Commercial methods followed in the manufacture of such food stuffs as fruit and vegetable by-products, spices, condiments, flavoring extracts, sirups, leavening agents, animal foods; the use of sugars, vegetable cooking oils, flours, and cereals.

Elective; third term; 2 credits; 1 lecture; 1 recitation. *J. C. Bell*

Hrt 371. Dehydration of Fruits and Vegetables. This course is especially for students majoring in Horticulture. Actual drying of fruits and vegetables is done, along with the study of the common types of driers and principles of dehydration.

Required in Horticultural Products; junior or senior year; first term; 3 credits; 1 lecture; 1 recitation; 1 four-hour laboratory period. Fee \$5.00. *E. H. Wiegand*

Hrt 451. Fruit Juice and Vinegar Manufacture. Practical and scientific work in the handling of fruit juices; problems of filtration, sterilization, and bottling.

Required in Horticultural Products; elective in Agriculture; senior year; first term; 3 credits; 1 lecture; 1 recitation; 1 four-hour laboratory period. Fee \$5.00. *E. H. Wiegand, J. C. Bell*

Hrt 462. Commercial Jam and Jelly Manufacture. Practical and scientific manufacture of jams and jellies.

Required in Horticultural Products; elective in Agriculture; senior year; second term; 3 credits; 1 lecture; 1 recitation; 1 four-hour laboratory period. Fee \$5.00. *J. C. Bell*

Hrt 472, 473. Preserves, Glaced Fruits, and Candied Fruits. Continuation of Hrt 451. Manufacture of preserves, marmalades, conserves, maraschino cherries, glazed fruits, and candied fruits.

Required in Horticultural Products; senior year; second and third terms; 3 credits each term; 1 lecture; 1 recitation; 1 four-hour laboratory period. Fee \$5.00. *E. H. Wiegand, J. C. Bell*

Hrt 481, 482, 483. Special Problems. Special study of some phase of fruit and vegetable preservation, as selected by the student, such as dehydration, pickle manufacture, canning and preserving certain products, etc.

Elective; senior year; three terms; credits, hours, and fee to be arranged. *E. H. Wiegand*

RESEARCH

Hrt 491, 492, 493. Investigative Work for Seniors. This work is offered for those seniors who are contemplating following college,

experiment station, or Government work as a life career, and for those who desire practice in research technique. Problems are assigned which give experience in the laboratory, greenhouse, field, and library.

Elective in Agriculture; senior year; three terms; 3 credits; 2 lectures.
E. M. Harvey

Hrt 494, 495, 496. **Methods of Research.** Conducted as a research round table, these courses give drill in making of briefs and outlines of research problems, methods of procedure in conducting investigative work, and the preparation of bulletins and reports. Research problems being studied by the department of Horticulture are taken up. Close study is made of research work presented in bulletins from other institutions.

Elective in Agriculture; senior or graduate year; three terms; 1 or 2 credits each term; 2 lectures.
E. M. Harvey

Hrt 691, 692, 693. **Advanced Thesis and Research Work.** For graduate students only. Problems in Pomology, Vegetable Gardening, Landscape Gardening, Floriculture, Plant Breeding, as selected by student.

Elective in Agriculture; graduate year; three terms; 10 to 20 credits each term.
E. M. Harvey

VOCATIONAL COURSES

(Credits in vocational courses are non-collegiate.)

Hrt 11, 12, 13. **Orchard Management.** This work aims to give as much practical instruction in Horticulture as can be consistently given in the time allowed to persons without uniform preparation for the work. Emphasis is laid continually on laboratory and field work. The work takes up the various phases of Horticulture from the cultivation of the orchard until the crop is harvested, and includes such subjects as harvesting, grading, packing, pruning, spraying, thinning, fruit setting, etc.

One-year Vocational Curriculum in Horticulture; three terms; 5 credits each term; 3 recitations; 3 two-hour laboratory periods. Fee \$1.50 each term. Text: Sears, Productive Orchardng.

C. E. Schuster and assistants

Hrt 21, 22, 23. **Vegetable Gardening.** Fall, winter, and spring vegetables according to season. Important varieties of vegetables; harvesting; packing; storage; marketing; seed stock selection for biennial and annual vegetables; soil adaptability; plans and methods of cropping; fertilizers; irrigation; vegetable seedling production.

Attention is also given to greenhouse and frame crops which are grown to maturity during spring and summer. The texts are mimeographed notes and assigned references.

One-year Vocational Curriculum in Horticulture; three terms; 3 credits each term; 2 recitations; 1 two-hour laboratory period.

A. G. Bouquet

POULTRY HUSBANDRY

Poultry keeping is rapidly growing in importance as a definite part of every well-regulated system of diversified farming, and offers opportunity for profit-making as a specialized business. The climate of Oregon is particularly adapted to the successful breeding and raising of poultry.

Equipment. The equipment includes two poultry plants, one of twenty-five acres, the other a five-acre tract. The two-story Poultry Building has laboratories for incubation, judging, killing, egg handling, and carpentry, equipped with appliances necessary for practical poultry keeping. Twenty different makes of incubators, including a mammoth machine, are available for student practice in incubation. There are twenty-four colony poultry houses of different types, three different types of commercial houses, each of 200 birds capacity, and hatching and brood coops of various styles. Large flocks of Barred Plymouth Rocks and White Leghorns used in experimental breeding work are available for study, and there are pens of several other of the more common breeds and varieties, and individual specimens of 32 of the less common breeds, which are used for student study and practice. There are also sets of charts, lantern slides, motion pictures, and photographs, illustrating breeds of fowls, types of poultry houses, and equipment.

COURSES

PH 201. Practical Poultry Keeping. A brief course dealing with practical application of the principles of Poultry Husbandry to general farm conditions. An introductory course for those intending to specialize in this field, recommended also for those who plan to teach agriculture or wish a single, elementary course in Poultry Husbandry.

Optional in Agriculture; sophomore year; any term; 3 credits; 2 lectures; 1 recitation; 1 two-hour laboratory period. Fee \$1.00. Text: Lippincott, Poultry Production. *A. G. Lunn*

VM 309. Anatomy of the Fowl. Elective in Agriculture; required in Poultry Husbandry; 3 credits; 1 lecture or recitation; 1 laboratory period. (See courses in Veterinary Medicine.)

PH 311. Poultry Breeding, Breeds, and Judging. A study of breeds of poultry, their history and classification; principles and methods of breeding for different purposes; laboratory work in judging from fancy and utility standpoints. *A. G. Lunn*

Prerequisite: PH 201. Optional in Agriculture; required in Poultry Husbandry; junoir year; first term; 4 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$1.00. Deposit \$1.00.

A. G. Lunn

PH 321. Incubation and Brooding. A study of the principles and practices involved in natural and artificial incubation and brooding; study of the egg and its development; laboratory work in actual running of incubators and brooders; opportunity given when possible for students to work out some definite problem.

Prerequisite: PH 201. Optional in Agriculture; required in Poultry Husbandry; junior year; second term; 4 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$1.50. Deposit \$1.00.

PH 331. Poultry-house Design and Construction. A study of the principles of poultry-house designing; estimating the cost of buildings; studying building plans; practice in erecting, remodeling, and making appliances; excursions to neighboring farms.

Prerequisite: PH 201. Optional in Agriculture; required in Poultry Husbandry; junior year; third term; 4 credits; 2 recitations; 2 laboratory periods. Fee \$2.00. Deposit \$1.00. *O. C. Krum*

VM 351. Poultry Diseases. Elective in Agriculture; required in Poultry Husbandry; third term; 3 credits; 1 lecture or recitation; 2 laboratory periods. (See courses in Veterinary Medicine.)

PH 441. Poultry Feeding. A study of feeds suitable for poultry; principles and practice of feeding breeding stock, feeding for egg production, and fattening for market; feeding young and growing chicks; feeding appliances; the compounding of rations; actual practice in feeding a flock of hens.

Prerequisite: PH 201. Optional in Agriculture; required in Poultry Husbandry; senior year; first term; 4 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$1.00. Deposit \$1.00.

F. E. Fox

PH 451. Marketing Poultry Products. Preparation of poultry and eggs for market; methods of storage and preservation; methods of marketing; laboratory work in killing, picking, grading, packing, and shipping poultry; testing, grading, packing, and storing eggs.

Prerequisite: PH 201. Optional in Agriculture; required in Poultry Husbandry; senior year; second term; 4 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$2.00. Deposit \$1.00.

A. G. Lunn

PH 461. **Commercial Poultry Practice.** Selection of the location, layout, and arrangement of buildings; study of records. Each student works out complete plans for the layout and management of a commercial poultry enterprise.

Prerequisites: PH 321, 331, 441, 451. Optional in Agriculture; required in Poultry Husbandry; senior year; third term; 4 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$1.00. Deposit \$1.00. *A. G. Lunn*

PH 481, 482, 483. **Seminar.** Discussion of Poultry literature and current problems of interest to the advanced student, including critical examination of research methods relating to poultry work. Frequent written reports are required.

Required in Poultry Husbandry; senior year; three terms; 1 credit; 1 meeting a week. *A. G. Lunn*

PH 484, 485, 486. **Departmental Management.** For seniors majoring in Poultry Husbandry. Practical work in and about the poultry department, so arranged as to give the student practice and experience in college poultry plant management. Hours to be arranged with head of department.

Poultry Husbandry; senior year; three terms; 3 credits each term; 3 three-hour laboratory periods.

SOILS

The work in Soils includes soil physics, soil drainage, irrigation farming, dry farming, soil fertility, soil surveying, soil biology, and soil management. The purpose of the courses in Soils is to give the student thorough training in this important phase of agriculture, making him competent to manage a farm or preparing him for positions in state or Federal service. The wealth of Oregon rests in her soil and water resources, and their intelligent development, management, and preservation. With the further extension of state and Federal aid to reclamation, there will be a greater demand for men who have a knowledge of how most successfully and economically to use water which the engineer's canals and reservoirs provide. These men must know the best time, amount, and method of irrigation, and the effects of irrigation upon soils and crops. They should also know the relations between soils, soil waters, and drainage, and understand how to locate and construct drains and to treat or fertilize the soil so as to secure the highest possible efficiency for each unit of tiling employed.

Equipment. The Soils laboratories are equipped with apparatus for complete study of physical and chemical properties of soils and

problems of soil management. Ample desk room, supplied with running water, gas, compressed air, and electricity, is available. Electric centrifuges and shakers, electric bridge for alkali testing, electric air baths, analytic and torsion balances, microscopes, blast lamps, aspirators, percolators, capillary tubes, mulch cylinders, soil sieves, scales, solution balance, compression filters, soil sampling tubes, moisture equivalent centrifuge, furnaces, hoods, etc., form a part of the equipment for the work in Soils. Soil surveying and mapping outfits, soil survey charts of the United States, and a collection of samples of the chief soil types of Oregon and the United States, are available. The soil preparation room is equipped with benches, soil-grinding and sifting machinery, and ample space for drying, preparation, and storage of large quantities of the different soil types used in the laboratories. For field work in Drainage and Irrigation, surveying instruments, tiles, and ditching tools, weirs, flumes, hook gauges, water-stage register, electric pumping plant, etc., are available. Weather-recording instruments of different kinds supply equipment for the course in Climatology. Laboratories fitted with desks, ovens, etc., afford opportunities for studies of the movement and retention of irrigation water in soil, the effects of irrigation upon soils and crops, the effect of tile drainage upon soils of different types, their rate of drainage, etc. On the College farm the students build weirs, measure water, lay out distribution systems, make cement pipes for laterals, and test pumping machinery. On the drainage plots, the rate of discharge is measured and the effects of drains and soil conditions on water table are studied. The Exhibit Room is equipped with cases and racks for displays of soil sample collections, subsoils, hard-pans, soil analyses, soil colors, soil drainage and irrigation exhibits, etc. A well-stocked reference library is available. The Experiment Station farms at Corvallis and in other parts of the State, together with the cooperative trials in different counties, offer opportunity for field study of soil problems.

Research. The department of Soils is well equipped for offering research work. The experiment fields, soil tanks, laboratories, and library, and the plans and methods used in soil, irrigation, and drainage investigations offer valuable opportunities to graduate students. See courses Sls 601, 602, 603.

COLLEGIATE COURSES

Sls 201, 202. **Soils.** Origin, formation, and classification of soils; study of the physical properties of soil moisture, heat, and air; effects of tillage, drainage, and irrigation; plant foods and soil fertility; fertilizers; crop rotations; manures; acid and alkali soils.

Prerequisites: Ch 101, 102, 103. Required in Agriculture; sophomore year; first and second terms; 3 credits each term; 2 lectures; 1 recitation; 1 three-hour laboratory period. Fee \$2.00 each term. Deposit \$2.00 each term. Text: Lyon, Fippin, and Buckman, *Soils*.

C. V. Ruzek, E. F. Torgerson, W. W. Johnston

Sls 203. Soil Drainage and Irrigation. Principles of drainage and of irrigation; use of chain and level as applied to location and installation of tile drains or irrigation laterals; design of tile systems; their effect upon soils and crops; costs and benefits.

Required in Agriculture; sophomore year; third term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$2.00. Deposit \$1.00. *W. L. Powers*

Sls 311. Irrigation Farming. Methods of obtaining, distributing, and conserving irrigation waters; handling of different crops under irrigation; costs and profits; duty of water in various districts of Oregon; water rights and irrigation codes; field and laboratory studies of irrigation qualities of different soils; laying out of irrigation systems.

Elective; junior year; first term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$1.00. Deposit \$1.00. Text: Widtsoe. *W. L. Powers, W. W. Johnston*

Sls 312. Irrigation Farming Elective. Special course for Irrigation Engineering students or other students who cannot take the laboratory course in Irrigation Farming.

Elective; junior or senior year; first term; 2 credits; 2 recitations. *W. L. Powers*

Sls 314. Western Land and Water Laws. A brief history of the development of water laws. Homestead laws, water rights, and irrigation codes in the different states, particularly in the Northwest and Oregon; appropriation, adjudication, and administration of water; reclamation and other Government and state land acts affecting reclamation development; organization and administration of irrigation districts and projects; water users' associations, etc.; discussion of public questions relating to reclamation.

Elective; junior year; second term; 3 credits; 3 recitations. Text: Chandler, *Elements of Western Water Law*. *W. W. Johnston*

Sls 317. Dry Farming. Advanced study of the subject of moisture conservation, special tillage methods and machinery, soil and climatic conditions, etc., in dry-farming regions, with particular reference to Oregon and northwestern states. Offered in alternate years. Not offered 1922-23.

Prerequisite: Sls 211 or 215. Elective; junior or senior year; second term; 2 credits; 2 recitations. *W. L. Powers*

Sls 318. **Land Drainage.** Field study of road, soil, and sanitary drainage; actual surveying, laying out, drafting of plans, estimation of cost, and installation of drainage systems; preparation of a complete report of the organization of a drainage district.

Prerequisite: Sls 201. Elective; junior year; third term; 3 credits; 1 recitation; 2 three-hour laboratory periods (week end). Fee \$1.00. Deposit \$1.00.

W. L. Powers

Sls 331. **Climatology.** Practical meteorology; observing and recording local weather and forecasting; a study of the climate of Oregon and the effect of climate upon agriculture. Given alternate years.

Elective; junior or senior year; second term; 2 credits; 1 recitation; 1 two-hour laboratory period. Fee \$1.00. Deposit \$1.00.

E. F. Torgerson

Sls 411. **Irrigation Field Practice.** This course aims to give practical knowledge of irrigation farming conditions. Careful records are kept of water used on different soils and crops and of the yield obtained from definite areas. This work may be done during the summer months in connection with duties as ditch rider or other field agent. A report is required and work is to be outlined with the instructor in advance.

Prerequisite: Sls 311. Elective; junior or senior year; any term; 2 to 4 credits.

D. W. Ritchie

Sls 414. **Advanced Irrigation.** Irrigation literature and methods of irrigation investigation; field and laboratory studies of irrigation experiments; calculation of depth of water applied and of the most economical production thereby secured; costs and profits connected with irrigation; analysis of data and preparation of a thesis. Field examinations are made, where possible, of some of the largest projects in the State.

Elective; senior year; first term; 3 credits.

W. L. Powers, W. W. Johnston

Sls 417. **Irrigation Management.** A study of the operation and maintenance of irrigation systems; methods and records for water masters; control of agencies destructive to ditches; cost and durability of materials used in distribution of water on the farm; water rotations for different types of farming.

Elective; senior or graduate year; third term; 1 credit.

W. L. Powers

Sls 421. **Soil Physics.** Origin, formation, physical composition, and classification of soils; soil moisture, surface, tension, osmosis, capillarity, diffusion, aeration, temperature, and the resulting altera-

tion in crop-producing power; influence of washing, drainage, and irrigation upon soils; laboratory determination and comparison of physical properties of various soil types; physical effect of mulches, rotations, and cropping; soil sampling and judging; mechanical analysis of soils.

Elective; senior year; first term; 5 credits; 3 recitations; 2 three-hour laboratory periods. Fee \$2.00. Deposit \$1.00. Texts: Mosier and Gustafson. *O. A. C. Laboratory Manual.*

W. L. Powers, E. F. Torgerson

Sls 422. Soil Physics Elective. Similar to Sls 421, but without laboratory work for Agricultural students unable to take the regular course in Soil Physics and for students in Irrigation Engineering.

Elective; senior year; first term; 3 credits; 3 recitations. Text: Mosier and Gustafson.

W. L. Powers

Sls 424. Soil Fertility. Advanced work in composition and values of fertilizers and barnyard and green manures; maintenance and improvement of fertility; effect of the various crops and different systems of farming upon the fertility of the soil; crop rotations and fertility in different sections of the State and the United States; field-plot and pot-culture investigations.

Prerequisite: Sls 421. Elective; senior year; second term; 5 credits; 3 recitations; 2 three-hour laboratory periods. Fee \$2.00. Deposit \$2.00.

C. V. Ruzek

Sls 425. Soil Fertility Lectures. Same as Sls 424, except no laboratory work.

Elective; senior year; second term; 3 credits; 3 recitations. Fee \$0.50.

C. V. Ruzek

Sls 427. Soil Surveying. For the advanced student who desires preparation for service at state experiment stations or in the Government Bureau of Soils. Study of the classification of soils and soil areas of the United States, of Oregon, and of the Northwest; much field work in making regular and completed soil surveys of assigned areas, with a report thereon.

Prerequisite: Sls 421 or 424. Elective; senior year; third term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$1.00.

E. F. Torgerson

Sls 428. Soil Management. Occurrence, composition, characteristics, productivity, plant-food requirements, comparative values, and management of different soil types of Oregon.

Prerequisite: Sls 424. Elective; senior or graduate year; third term; 2 credits; 2 recitations.

W. L. Powers

SlS 441, 442. Advanced Soil Work. The advanced student may study the various soil types of Oregon through mechanical analysis, and other physical tests; may undertake field work in soil surveying and mapping; or, through wire-basket, pot-culture, and field-plot tests, may determine the effects of various systems of cropping, or fertilizing, or of soil bacteria, upon soil fertility.

Prerequisites: SlS 411, 421. Elective; senior or graduate year; any term; 2 to 5 credits each term. Fee \$1.00 each term. Deposit \$2.00.
W. L. Powers, C. V. Ruzek

SlS 451, 452. Advanced Drainage or Irrigation Work. Special problems in either subject, such as the drainage of alkali lands, drainage against seepage, study of water-table fluctuations, run-off, etc.; or field studies of the duty of water for a certain district, conservation of irrigation waters, effect of irrigation on soil moisture conditions, etc., as selected by the student.

Elective; senior year; any term; 2 to 5 credits each term. Fee \$0.50 each term. Deposit \$1.00.
W. L. Powers

SlS 481. Seminar. Semi-weekly meetings, alternating with those of the Soils Improvement Club, at which papers on soils subjects are read and discussed. Papers are prepared under supervision of the department.

Required in Soils; junior or senior year; three terms; one-half credit each term.
W. L. Powers, C. V. Ruzek

SlS 601, 602, 603. Advanced Thesis and Research Work. Courses for graduate students either as major or minor. Students may select problems in soil physics, analysis, surveying, fertility, irrigation, drainage, soil management, dry farming, or related subjects.

Elective; graduate students; three terms; 5 to 15 credits each term.
W. L. Powers, C. V. Ruzek

VOCATIONAL COURSES

(Credits in vocational courses are non-collegiate.)

SlS 50. Farm Soils. Brief history of origin of soils; fertility of soils; most valuable chemical constituents; their exhaustion and replenishment; most important physical factors; their deterioration and improvement; the physical components; their relative value and amounts in soil mixtures; practice in judging the chief soil types of Oregon; effects upon soils of tillage, manuring, crop rotation, drainage, and irrigation.

Vocational Curriculum; first term; 5 credits; 3 recitations; 2 two-hour laboratory periods. Fee \$1.00. Deposit \$1.00.

E. F. Torgerson

Sls 60. Practical Farm Drainage. The value of drainage, the methods and cost of installing drainage systems under different soil and land conditions, district drainage, etc.

Vocational Curriculum; third term; 3 credits; 2 recitations; 1 two-hour laboratory period. Fee \$1.00. *D. W. Ritchie*

Sls 70. Irrigation Farming Practices. The most effective methods of handling irrigation waters; the different crops under irrigation, and the cost and profits thereof; organization as affecting water use and control in irrigated districts. (Offered provided six or more students register for the course.)

Elective in Vocational Curriculum; first term; 3 credits; 2 recitations; 1 two-hour laboratory period. Fee \$0.50. Text: Fortier, *Use of Water in Irrigation.* *D. W. Ritchie*

Sls 80. Dry-Farming Practices. Methods of handling soils under dry-farming conditions; tillage; seeding; moisture control; usable water capacity of dry-farming soils; root systems of dry-land plants, etc. (Offered provided six or more students register for the course.)

Elective in Vocational Curriculum; second term; 2 credits; 2 recitations. Fee \$0.50. *W. L. Powers*

VETERINARY MEDICINE

The object of the courses in Veterinary Medicine is to help fit the students for the successful handling of livestock. Comparative Anatomy and Comparative Physiology familiarize the student with the normal structures and functions of the animal body, thus laying a foundation for courses in judging, breeding, feeds and feeding, nutrition, and diseases of animals.

The work in diseases is taken up from the standpoint of the livestock owner. The students learn to recognize diseases, to care for sick animals, and to prevent disease through proper methods of sanitation and management. The importance of quarantine, the different methods of control and eradication of disease, and the role of the stock owners in maintaining this work are considered.

Equipment. This department has its office, physiological laboratory, and lecture room on the second floor of the Dairy Building. Dissections, autopsies, and clinics are conducted in a suitably equipped Veterinary Clinic Building.

COLLEGIATE COURSES

VM 301. Comparative Anatomy. A laboratory course in the anatomy of domesticated animals. Special attention is given to the digestive systems of the horse and the cow; to the foot, the teeth,

and the muscles of locomotion of the horse. The work includes complete dissection of the digestive, urinary, genital, and respiratory systems, and partial dissection of the circulatory, muscular, and nervous systems.

Prerequisite: ZP 130 or equivalent. Required in Animal Husbandry and in Dairy Husbandry; junior year; first term; 3 credits; 1 lecture; 3 two-hour laboratory periods. Fee \$1.00.

B. T. Simms, F. W. Miller

VM 302. Comparative Anatomy. Continuation of VM 301.

Prerequisite: VM 301. Required in Animal Husbandry and in Dairy Husbandry; junior year; second term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$1.00.

B. T. Simms, F. W. Miller

VM 309. Anatomy of the Fowl. A study of the structure of the body of the fowl.

Required in Poultry Husbandry; junior or senior year; second term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$1.00. Text: Kaupp, *Anatomy of the Domestic Fowl*.

VM 321. Comparative Physiology. Study of the functions of the body; the physiological processes of all domestic animals, with emphasis on the horse and the cow.

Prerequisites: VM 302, Chemistry or equivalent. Required in Animal Husbandry and Dairy Husbandry; junior year; third term; 3 credits; 3 lectures; 1 two-hour laboratory period. Fee \$1.00.

B. T. Simms

VM 341. Diseases of Livestock. A one-term course for students specializing in the Plant Group. The more common diseases, with methods of prevention and control, are considered. The laboratory work consists of a free clinic.

Elective; junior or senior year; first term; 4 credits; 2 lectures; 2 recitations; 1 two-hour laboratory period. Fee \$0.50. Text: Craig, *Common Diseases of Domesticated Animals*.

B. T. Simms

VM 351. Diseases of Poultry. The parasitic, infectious, and non-infectious diseases of poultry; emphasis upon methods of prevention and control of the parasitic and infectious diseases; observations of autopsies, methods of diagnosis, and treatment of fowls.

Required in Poultry Husbandry; junior or senior year; third term; 3 credits; 3 recitations; 1 two-hour laboratory period. Fee \$0.50. Text: Pearl, *Diseases of Poultry*.

VM 441, 442, 443. Diseases of Livestock. The parasitic, infectious, and noninfectious diseases of domesticated animals. The laboratory work consists of a free clinic. Students assist in handling

the medical cases, operating on the surgical cases, and caring for animals in the hospital.

Prerequisites: VM 302, 321, or equivalent. Required in Animal Husbandry and Dairy Husbandry; senior year; three terms; 3 credits each term; 2 recitations; 1 two-hour laboratory period. Fee \$0.50 each term. Text: U. S. D. A. Diseases of Horses.

B. T. Simms, F. W. Miller

VOCATIONAL COURSE

(Credits in vocational courses are non-collegiate.)

VM 41. Diseases of Domestic Animals. The study of the common diseases of livestock, veterinary sanitation, and veterinary hygiene.

Required in Vocational Curriculum; third term; 5 credits; 3 recitations; 1 lecture; 2 two-hour laboratory periods. Fee \$0.50. Text: Hadley, The Horse in Health and Disease. *F. W. Miller*

School of Basic Arts and Sciences

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.

M. ELLWOOD SMITH, Ph.D., Dean of the School of Basic Arts and Sciences; Director of the Summer Session.

VERA FUNK, B.Sc., Secretary to the Dean.

Art and Rural Architecture

FARLEY DOTY McLOUTH, B.Sc., Professor of Art.

FREDERICK HENRY BERNs, Instructor in Art.

MARJORIE BALTZEL, Instructor in Art.

ISABELLE STEELE, B.Sc., Assistant in Art.

Bacteriology

GODFREY VERNON COPSON, M.S., Professor of Bacteriology; Bacteriologist, Experiment Station.

WILLIAM VERNAL HALVERSEN, M.S., Assistant Professor of Bacteriology.

JOSEPH ELLSWORTH SIMMONS, M.S., Assistant Professor of Bacteriology.

JAMES ALEXANDER BERRY, M.S., Instructor in Bacteriology.

Botany

HOWARD PHILLIPS BARSS, A.B., S.M., Professor of Botany and Plant Pathology; Plant Pathologist, Experiment Station.

WINFRED MCKENZIE ATWOOD, Ph.D., Associate Professor of Plant Physiology.

WILLIAM EVANS LAWRENCE, B.Sc., Associate Professor of Plant Ecology.

CHARLES ELMER OWENS, A.M., Associate Professor of Plant Pathology.

HELEN MARGARET GILKEY, Ph.D., Assistant Professor of Botany; Curator of the Herbarium.

MARGARET STASON, M.S., Instructor in Botany.

CARL CLAWSON EPPLING, B.A., Instructor in Botany.

FREDERIC GEORGE RENNER, B.Sc., Teaching Fellow in Botany.

Chemistry

JOHN FULTON, M.S., Professor of Chemistry; Director of Chemical Laboratories.

SHIRLEY JONES, M.S., Professor of Agricultural Chemistry; Chemist, Experiment Station.

WALTER SCOTT, Ph.D., Associate Professor of Chemistry.

- FRANCIS HENRY THURBER, M.A., Assistant Professor of Organic Chemistry.
- THOMAS WATSON, M.A., A.I.C., Assistant Professor of Organic and Food Chemistry.
- HAROLD RUSSELL KELLY, B.Sc., Instructor in Agricultural Chemistry.
- OSMAN HORACE CADY, M.S., Instructor in Chemistry.
- JOSEPH PARKE MEHLIG, M.S., Instructor in Quantitative Chemistry.
- ABRAHAM SCHWARTZ, B.Sc., Instructor in Chemistry.
- REX LOTHROP, B.E., Instructor in Chemistry.
- FRED JOHN ALLEN, M.S., Instructor in Chemistry.
- ALBERT WASHINGTON LAUBENGAYER, B.Chem., Instructor in Chemistry.
- CYRIL EVAN FARRAND, B.Sc., Instructor in Chemistry.
- MARY LOUISE PRICE, M.S., Instructor in Chemistry.

English

- FREDERICK BERCHTOLD, A.M., Professor of English Language and Literature.
- IDA BURNETT CALLAHAN, B.Sc., Associate Professor of English.
- LOREN BURTON BALDWIN, A.M., Assistant Professor of English.
- SIGURD HARLAN PETERSON, A.B., Assistant Professor of English.
- GERTRUDE EWING McELFRESH, A.B., B.Sc., Instructor in English.
- CARL NAETHER, A.B., Instructor in English.
- CLARK HARRIS SLOVER, A.M., Instructor in English.
- HARRY HOWARD TUCKER, A.B., Instructor in English.
- SHARON OSBORNE BROWN, A.B., Instructor in English.
- FRANK DEAN MOORE, A.B., Instructor in English.
- HUGH REBER SILBAUGH, B.Sc., Instructor in English.
- WILLIAM DE MACEDO, Assistant in English.

Entomology

- LESTER LOVETT, B.Sc., Professor of Entomology; Entomologist, Experiment Station.
- FRANK HEIDTMAN LATHROP, A.B., M.S., Associate Professor of Entomology; Associate Entomologist, Experiment Station.
- WILLARD JOSEPH CHAMBERLIN, M.S., Assistant Professor of Entomology; Forest Entomologist.
- BENTLEY BALL FULTON, M.S., Assistant Professor of Entomology Research.
- HERMAN AUSTIN SCULLEN, A.B., Instructor in Entomology; Specialist in Bee Culture.
- THERESE BECKWITH, A.B., Entomological Technician.

History

- JOHN B. HORNER, A.M., Litt.D., Professor of History.
- WILLIAM HENRY ELLISON, Ph.D., Associate Professor of History.

Mathematics

CHARLES LESLIE JOHNSON, B.Sc., Professor of Mathematics.

EDWARD BENJAMIN BEATY, B.Sc., A.M., Associate Professor of Mathematics.

FREDERICK CHARLES KENT, A.B., Associate Professor of Mathematics.

NICHOLAS TARTAR, B.Sc., Assistant Professor of Mathematics.

HARRY LINDEN BEARD, B.Sc., Assistant Professor of Mathematics.

JOHN ALBERT VAN GROOS, M.S., Instructor in Mathematics.

CHARLES WESLEY VANDEWALKER, A.B., Instructor in Mathematics.

GEORGE ALFRED WILLIAMS, A.B., Instructor in Mathematics.

VIOLA DINGER BACON, B.Sc., Instructor in Mathematics.

WALTER ALLEN COX, Assistant in Mathematics.

Modern Languages

LOUIS BACH, A.M., Professor of Modern Languages.

MELISSA MARGARET MARTIN, A.B., B.Sc., Instructor in Modern Languages.

ETHEL TAYLOR, A.B., Instructor in Modern Languages.

Physics

WILLIBALD WENIGER, Ph.D., Professor of Physics.

WILLIAM BALLANTYNE ANDERSON, Ph.D., Professor of Physics.

ROBERT UPHOFF, A.B., Assistant Professor of Physics.

ALBERT WASHINGTON MARKER, A.M., Instructor in Physics.

JACOB JORDAN, A.M., Instructor in Physics.

FRED BUCHNER MORGAN, A.B., B.Sc., Instructor in Physics.

HARRY DRILL, A.B., Instructor in Physics.

MAUDE TURLAY PARR, Gr.M., Instructor in Physics.

Public Speaking

CHARLES BUREN MITCHELL, A.M., Professor of Public Speaking.

GEORGE REUBEN VARNEY, A.B., D.D., Assistant Professor of Public Speaking.

NORMA OLSON, Instructor in Expression and Dramatics.

EARL WILLIAM WELLS, A.B., Instructor in Public Speaking.

Zoology and Physiology

NATHAN FASTEN, Ph.D., Professor of Zoology and Physiology.

HOWARD MARSHALL WIGHT, M.S., Assistant Professor of Zoology and Physiology.

FLORENCE HAGUE, Ph.D., Instructor in Zoology and Physiology.

JAMES LYNCH, A.M., Instructor in Zoology and Physiology.

GEORGE DAVID ORR, B.Sc., Teaching Fellow in Zoology and Physiology.

The School of Basic Arts and Sciences comprises various departments furnishing instruction in the basic sciences and other fundamental subjects underlying the various industries represented in the distinctive courses of the Oregon Agricultural College. It is an administrative organization of the twelve departments, Art and Rural Architecture, Bacteriology, Botany and Plant Pathology, Chemistry, English Language and Literature, Entomology, History, Mathematics, Modern Languages, Physics, Public Speaking and Dramatics, and Zoology and Physiology, the scope and facilities of which are discussed under their respective departmental headings.

Courses in degree curricula are designated by numbers of three digits in which the left-hand digit represents usually the year (as first, second, third, etc.) in which the course is normally pursued; the middle digit represents the group of related courses in the department to which the course belongs; and the right-hand digit represents the sequence of courses in cases where courses normally follow each other in succeeding terms. Courses in vocational curricula are numbered with two digits, the first generally representing the year in which the course is pursued, the second the sequence of the course.

Under each department descriptions of vocational courses are printed immediately after the descriptions of collegiate courses.

ART AND RURAL ARCHITECTURE

Art. The department of Art and Rural Architecture offers no regular courses in Art with the idea of instruction in the fine arts alone, but rather as art education relates to the highest ideals in everyday life, and meets the requirements of the industries, dress, and the home. Courses in drawing, composition, design, and color are offered for the purpose of facilitating instruction in the applied arts courses in design, metal work, clay modeling, and the ceramic arts, and in the work of such other departments as Landscape Gardening, Household Art, and Industrial Arts. The courses offered not only develop utilitarian ideas, but they also cultivate an appreciation of the beautiful in nature and art.

Rural Architecture. The courses in Architecture are offered primarily to students in Agriculture, Home Economics, and Engineering. All students, however, who are interested in domestic or rural architecture, may elect courses which they are prepared to take. The work is especially adapted to meet the utilitarian requirements of the various departments and to serve these departments in an able manner. The courses consist of problems in the design and construction of buildings and a consideration of building materials.

Equipment. The department occupies commodious, well-lighted studios on the fourth floor of Agricultural Hall and the first floor of the Library Building, a metal-working laboratory, and a clay-modeling and pottery studio in the Mines Building. The studios have north light, are well heated and ventilated, and are equipped with studio and laboratory accessories, such as casts, still life, prints, and tools. The department is also well supplied with wall drawings, pictures, and portfolios illustrating the different phases of the work.

The College Library has a carefully selected and growing reserve in art and architecture, covering all branches of these subjects.

COURSES

ART

A 110. Drawing and Composition. Free-hand drawing of still life, decorative textiles and costumes, developing the principles of representation in line and light and shade, by use of pencil, charcoal, and brush and ink.

Required in Home Economics; freshman year; first term; 3 credits; 1 lecture; 3 two-hour studio periods. Fee \$0.50.

F. H. Berns, Marjorie Baltzel

A 120. Design. The elements of design construction and their application to problems of dress and home decoration are made the basis of this course. A note-book is required of each student. Two hours outside reading required.

Prerequisite: A 110 or equivalent. Required in Home Economics; freshman year; second term; 3 credits; 1 lecture; 3 two-hour studio periods. Fee \$0.50.

F. H. Berns, Marjorie Baltzel

A 130. Color Harmony. This course covers the study of the so-called primary colors, the development of the prismatic colors with their complements, color quality, color values, and the various harmonies. Problems are rendered in original color harmonies, and in the use of nature color and color prints. These problems are an application of appropriate color schemes as applied to articles of household use, dress, and home interiors. Two hours outside reading required.

Prerequisites: A 110, 120, or equivalent. Required in Home Economics; freshman year; third term; 3 credits; 1 lecture; 3 two-hour studio periods. Fee \$0.50.

F. D. McLouth, F. H. Berns, Marjorie Baltzel

A 211. Industrial Arts Drawing. Free-hand perspective and free-hand drawing of furniture and other articles, machine parts, and drawing from written descriptions.

Required in Industrial Arts and Landscape Gardening; sophomore year; first term; 2 credits; 3 two-hour studio periods. Fee \$0.50.

F. D. McLouth

A 213. Drawing. Study and graphic representation of trees, hedges, shrubbery; in general the materials used in landscape gardening.

Prerequisite: A 211. Required in Landscape Gardening; sophomore year; first term; 2 credits; 3 two-hour studio periods. Fee \$0.50.

F. D. McLouth

A 221. Industrial Arts Design. A course in the principles of design suited to the Industrial Arts Curriculum. Original design plates for door and cabinet paneling, metal parts, hinges, escutcheons, draw pulls, etc., and furniture.

Prerequisite: A 211. Required in Industrial Arts; sophomore year; second term; 2 credits; 3 two-hour studio periods. Fee \$0.50.

F. D. McLouth

A 241. Applied Design and Color. An elective offered to give broader working knowledge of design principles which may serve as a guide to selection and adaptation for practical application in the home. Problems in design and execution are required.

Prerequisites: A 110, 120, and 130. Elective; second term; 2 credits; 3 two-hour studio periods. Fee \$0.50.

F. D. McLouth

A 242. Applied Design and Color. A continuation of A 241.

Prerequisite: A 241. Elective; second or third term; 2 credits; 3 two-hour studio periods. Fee \$0.50.

F. D. McLouth

A 251. Pencil and Pen Rendering. Pencil and pen technique; use of the pencil and pen in the expression of landscape gardening subjects; sketching; pencil drawing as used under washes; studio and out-of-doors work.

Required in Landscape Gardening; sophomore year; third term; 2 credits; 3 two-hour studio periods. Fee \$0.50.

F. D. McLouth

A 331. Water-color. The courses in water-color are offered as electives and are open to any students who have completed courses A 110, 120, and 130, or their equivalent. The work of the first term includes simple flat washes of geometric casts and flat color washes of still-life subjects.

Elective; sophomore, junior, or senior year; any term; 2 credits; 3 two-hour studio periods. Fee \$0.50.

F. D. McLouth

A 332. Water-color. A continuation of A 331, taking up more complex still-life subjects, posters, and landscape.

Prerequisite: A 331. Elective; sophomore, junior, or senior year; any term; 2 credits; 3 two-hour studio periods. Fee \$0.50.

F. D. McLouth

A 333. Design and Color Use. The purpose of the course is to combine the use of design and color in more advanced problems of every-day application. Six problems are required and a note-book covering lectures and assigned reading. Two hours outside reading required.

Prerequisites: A 110, 120, 130, or equivalent. Required in Home Economics; junior year; any term; 3 credits; 1 lecture; 3 two-hour studio periods. Fee \$0.50.

F. D. McLouth, F. H. Berns

A 341. Clay Modeling and Pottery. Preparation of clay; designing and modeling of vases and bowls; application of original designs in incising and piercing; glazing and firing of kiln.

Prerequisites: A 110, 120, 130, or equivalent. Elective; sophomore, junior, or senior year; 2 credits; 3 two-hour studio periods. Fee \$1.00.

Marjorie Baltzel

A 342. Clay Modeling and Pottery. Introduction of handles, feet, and modeled decoration.

Prerequisites: A 110, 120, 130 (or equivalent), 341. Elective; sophomore, junior, or senior year; 2 credits; 3 two-hour studio periods. Fee \$1.00.

Marjorie Baltzel

A 343. Clay Modeling and Pottery. Application of principles previously studied to advanced problems; introduction of Japanese methods.

Prerequisites: A 110, 120, 130 (or equivalent), 341, 342. Elective; sophomore, junior, or senior year; 2 credits; 3 two-hour studio periods. Fee \$1.00.

Marjorie Baltzel

A 351. Water-color Rendering. Color theory; brush technique; flat washes over pencil; use of water color washes in the expression of landscape gardening subjects.

Prerequisite: A 251. Required in Landscape Gardening; junior year; second term; 3 credits; 4 two-hour periods and 1 one-hour period. Fee \$0.50.

F. D. McLouth

A 352. Water-color Rendering. Continuation of A 351. Application of color theory; rendering color washes of more complex landscape gardening subjects. Later in the term opportunity is given for out-of-doors sketching in water-color.

Prerequisite: A 351. Required in Landscape Gardening; junior year; third term; 3 credits; 4 two-hour periods and 1 one-hour period. Fee \$0.50.

F. D. McLouth

A 441. **Jewelry Making.** Elementary processes involving sawing, soldering, and stone setting. Materials used are copper and silver.

Prerequisite: A 120 or equivalent. Elective; three terms; 2 credits each term; 6 periods. Fee \$1.00 each term. Deposit \$2.00 each term.

Marjorie Baltzel

A 442. **Jewelry Making.** A continuation of A 441, introducing advanced problems in wire work and carving.

Prerequisites: A 120, A 441, or equivalents. Elective; three terms; 2 credits each term; 6 periods. Fee \$1.00 each term. Deposit \$2.00 each term.

Marjorie Baltzel

A 443. **Jewelry Making.** A continuation of A 442. Problems to be carried out in gold.

Prerequisites: A 120, A 141, A 142, or equivalents. Elective; three terms; 2 credits each term; 6 periods. Fee \$1.00 each term. Deposit \$2.00 each term.

Marjorie Baltzel

* RURAL ARCHITECTURE

Note: All hours are laboratory or drafting-room periods.

Ar 212. **Perspective Drawing.** Study of the representation of buildings and ground by means of mechanical perspective.

Elective; second term; 1 credit; 3 hours a week. Fee \$0.50.

Ar 213. **Dairy Buildings.** Study of dairy barns, silos, etc., by drawing plans.

Elective; third term; 2 credits; 6 hours a week. Fee \$0.50.

Ar 311, 312, 313. **Landscape Drawing.** Study of the presentation of drawings used by landscape architects and gardeners.

Required in Landscape Gardening; junior year; three terms; 3 credits each term; 9 hours a week. Fee \$1.00 each term.

Ar 317, 318, 319. **Horticultural Products Buildings.** Study of evaporators, store houses, and other structures by drawing plans and inspecting buildings.

Required in Horticultural Products; senior year; three terms; 1 credit each term; 3 hours a week. Fee \$0.50.

Ar 320. **Domestic Architecture.** Study of house arrangement (for women students).

Elective; junior year; any term; 2 credits; 6 hours a week. Fee \$0.75. Text: Robinson, Domestic Architecture.

Ar 331, 332, 333. **House Planning.** Study of architecture by working drawings of houses.

Elective; junior year; three terms; 3 credits each term; 9 hours a week. Fee \$1.00 first term; \$0.50 second and third terms. Text: Robinson, Domestic Architecture.

* Except by special arrangement courses in Rural Architecture will not be offered during 1922-23.

BACTERIOLOGY

Bacteriology has become fundamental to such sciences as Agriculture, Pharmacy, and Home Economics and is a necessary part of the training of every man or woman who is seeking a true education. The courses in Bacteriology are adapted to meet both technical and cultural needs of the students. In the sophomore year the work is general and fundamental in nature, and practically the same for all students; but in the later courses it becomes more specialized, following some definite branch of the science. So complex has the study of Bacteriology become that the attempt is no longer made to master the whole field but only one or two of the main branches of the subject, such as Soil Bacteriology, Dairy Bacteriology, Pathogenic Bacteriology, and others.

During the junior and senior years, opportunity for advanced work is given to students who have had proper preliminary training and who show a natural aptitude towards the work. Students in Agriculture may elect Bacteriology as a minor, and receive the necessary fundamental training for positions in Agricultural Bacteriology in colleges, experiment stations, civil service, dairy and food inspection, etc.; while students in the Pharmacy and pre-medical curricula may elect advanced work in Medical Bacteriology, Sanitation, and Public Health work. Graduate students in Dairy Husbandry, Soils, Horticultural Products, Pharmacy, or Home Economics, may elect Bacteriology as a minor with the approval of their major professor and the head of the department of Bacteriology.

Proper understanding of Bacteriology necessitates a fair knowledge of General Chemistry, which is therefore made a prerequisite of the courses in Bacteriology. Before a student can progress very far in the work, a knowledge of Qualitative, Organic, and Agricultural Chemistry is necessary, but these subjects will have been taken by students in the degree curricula by the time they are required for their bacteriological work.

Equipment. The department of Bacteriology is located on the fourth floor of Agricultural Hall. The department has well equipped laboratories for resident study and Experiment Station work, with dark room, storeroom, large incubator room for student use, and a departmental library containing the latest authentic texts on bacteriology. The general library has all the available American and foreign bacteriological periodicals of recognized merit. The department is well supplied with the highest grade microscopes, glassware and other equipment for general and advanced work.

COLLEGIATE COURSES

Bac 201. General Bacteriology (Agricultural). A series of lectures, recitations, and laboratory experiments to familiarize students

with the fundamental principles of Bacteriology as applied to Agriculture.

Prerequisite: One year of Chemistry. Required in Agriculture; sophomore year; any term; 4 credits; 2 lectures; 3 two-hour laboratory periods. Fee \$5.00. Text: Russell and Hastings, *Agricultural Bacteriology*.

Bac 204. General Bacteriology. A series of lectures, recitations, and laboratory experiments to familiarize students with the fundamental principles of Bacteriology.

Prerequisite: One year of Chemistry. Required in Home Economics (sophomore year), and in Pharmacy (junior year); first or second term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$4.00. Text: Buchanan, *Bacteriology*.

Bac 205. General Bacteriology. A continuation of Bac 204. A course adapted primarily to students of Home Economics. Bacteriology of food preservation, principles of sanitation, bacteriological studies of water, milk, and foods of all kinds; common infectious diseases; disinfection; germicides; and preservatives.

Prerequisite: Bac 204 or 201. Required in Home Economics; sophomore year; second or third term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$4.00. Text: Buchanan, *Bacteriology*.

Bac 301, 302, 303. Advanced Bacteriology. Beginning with the first term of the junior year, students in Agriculture and Pharmacy may elect Bacteriology as a minor and continue throughout the rest of their college course.

Prerequisite: Bac 201 or 204. Elective; junior year; three terms; 4 credits each term; 3 two-hour laboratory periods; 2 lectures. Fee \$5.00 each term.

Bac 311. Dairy Bacteriology. Application of Bacteriology to dairy practices; physiological activities of bacteria underlying bacterial analysis of dairy products; dairy sanitation; bacteriology of diseases of dairy cattle.

Prerequisite: Bac 201 or 204. Required in Dairy Husbandry; junior or senior year; first term; 4 credits; 2 lectures; 3 two-hour laboratory periods. Fee \$5.00.

Bac 312. Dairy Bacteriology. A continuation of Bac 311. A more thorough study of specific problems in Dairy Bacteriology and practice in special technique, adapted to particular needs of individual students as far as possible, and planned to train students as bacteriologists for creameries and market milk plants.

Prerequisites: Bac 201, 311. Elective in Agriculture; junior or senior year; second term; 3 credits; 1 lecture; 3 two-hour laboratory periods. Fee \$5.00.

Bac 321. **Soil Bacteriology.** A study of micro-organisms of the soil and their relation to soil fertility; biochemistry of the decomposition of humus; nitrogen-fixation; ammonification, etc.; relation of bacteria to soil fertility and study of the soil as a medium for bacteriological growth.

Prerequisite: Bac 201; Ch 251. Elective in Agriculture; junior or senior year; first term; 4 credits; 2 lectures; 3 two-hour laboratory periods. Fee \$5.00.

Bac 322. **Soil Bacteriology.** A continuation of Bac 321. A more thorough study in soil of different farm practices. Review of literature on Soil Bacteriology.

Prerequisite: Bac 321. Elective in Agriculture; senior year; second term; 3 credits; 1 lecture; 3 two-hour laboratory periods. Fee \$4.00.

Bac 332. **Pharmacy Bacteriology.** Continuation of Bac 204. Lectures and laboratory work devoted to principles of Bacteriology and study of Pathogenic Bacteriology.

Prerequisite: Bac 201 or 204. Required in Pharmacy; junior year; second term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$4.00. Text: Park and Williams, Pathogenic Micro-organisms.

Bac 333. **Immunity and Serum Therapy.** A study of the theory of immunity and its application to serum therapy; preparation of toxins, antitoxins, vaccines, etc.; study of normal and pathological blood.

Prerequisites: Bac 205 or 332. Required in Pharmacy; junior year; third term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$4.00. Text: Park and Williams, Pathogenic Micro-organisms.

Bac 401, 402, 403. **Advanced Bacteriology.** A continuation of Bac 303 comprising further training in the principles and technique of Bacteriology besides directing the study along one of the main lines of Bacteriology.

Prerequisite: Bac 303. Elective; senior year; three terms; 4 credits each term; 3 two-hour laboratory periods; 2 lectures. Fee \$5.00 each term.

Bac 413. **Agricultural Bacteriology (Advanced).** A final course in Bacteriology for students in Agriculture. Application of bacterial activities to farm practices and to the farm home; rural sanitation, hygiene, control of infectious diseases, fermentations, food preservation, etc.

Prerequisites: Ch 251, Bac 201. Elective; senior year; third term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$4.00.

Bac 441. **Zymology and Fermentations.** An elective for students in Horticultural Products. This course is planned to train the student to meet the bacteriological problems in food preservation such as the isolation, identification, and control of micro-organisms causing spoilage of fruits, vegetables, and other foodstuffs; the bacteriology of curing, ripening, and preserving food products.

Prerequisite: Bac 201 or 204. Elective in Agriculture; senior year; second term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$4.00.

Bac 480. **Seminar.** A discussion of the current literature on bacteriological topics.

Elective in Agriculture; senior year; any term; 1 credit; 1 hour.

Bac 691, 692, 693. **Research in Bacteriology.** Work for the master's degree, either as a minor or major in the department, may be selected and continued with the assistance and cooperation of the instructional staff of the department.

Prerequisite: Two years in Bacteriology. Credits and hours to be arranged. Fee \$2.00 a credit.

VOCATIONAL COURSE

Bac 11. **Vocational Dairy Bacteriology.** An elementary study of the bacterial factors in dairy production. Effect of pasteurization, cooling, straining; study of general sanitation, cleanliness of dairy, etc.

Required in Dairy Manufactures Short Course; second term; 1 (non-collegiate) credit; 1 lecture; 1 two-hour laboratory period. Fee \$2.00.

BOTANY AND PLANT PATHOLOGY

The courses offered in the department aim not only to give the student a knowledge of plants, their external and internal structure, their vital activities, their relations to their environment, and their natural classification; but also to impart such fundamental and practical information in regard to plants as will form a strong foundation for the technical work in Agriculture, Forestry, Pharmacy, and Home Economics.

Exceptional opportunities are afforded students who desire to specialize in Botany and Plant Pathology to prepare for the teaching of Botany and Agriculture in secondary schools and to secure a general foundation for advanced study and research in Horticulture, Agriculture, Forestry, and other fields. Special attention is given to those who wish to take up investigational work in agricultural

experiment stations or in the United States Department of Agriculture under the civil service. Training in Botany and Plant Pathology is a most valuable asset to agricultural extension workers, horticultural inspectors, district agriculturists, seed analysts, and pure-food experts.

Equipment. The department of Botany and Plant Pathology is quartered on the second floor of Agricultural Hall. The three general student laboratories are equipped with compound microscopes for each student and with special artificial illumination for microscopic work. The laboratories for special studies in Plant Pathology, Plant Physiology, Plant Ecology, and Plant Histology are provided with all the equipment required for ordinary courses and in addition special instruments and technical apparatus are available for advanced work. The herbarium contains several thousand specimens of native and introduced plants including cultivated forms, weeds, poisonous plants, drug plants, and other plants of economic importance. A battery of electrical driers is provided for collected material. Several thousand specimens of fungi, mostly parasitic forms, are comprised in the mycological collection. Physiologic dark rooms, photographic dark rooms, greenhouse space, and culture and sterilizing rooms for work with parasitic organisms are available. The departmental library contains excellent sets of reference works and bulletins, and receives the current issues of practically all of the more important botanical periodicals published in America and foreign countries.

Courses for Students Majoring in Botany and Plant Pathology. Students desiring to pursue special training in Botany and Plant Pathology are expected to take the usual work required in the freshman and sophomore years of the curricula in Agriculture or Home Economics. In the junior and senior years, besides the courses or options required of all students in these schools, special courses in Botany and Plant Pathology and related subjects are prescribed by the department of Botany and Plant Pathology. Students may obtain information from the head of the department regarding these requirements.

Graduate Courses. Advanced work in various lines of Botany may be taken by graduate students as major or minor subjects and registered for under Bot 691, 692, 693. Graduate work looking toward the master's degree with major in Botany and Plant Pathology may be registered for under the School of Agriculture. Such work will be outlined by the head of the department with approval of the graduate committee and carried forward under the immediate direction of an instructor specializing in the field in which the major is chosen.

Grazing Assistant Positions. The United States Forest Service offers abundant opportunity for properly prepared college students to enter grazing assistant positions in the national forests. Students desiring to prepare for these positions should consult this department for complete information as to requirements. The following Botany courses should be taken: Bot 101, 102, 321, 204, 341, 442. In addition, work should be taken in Animal Husbandry, Chemistry, Forestry (F 111, 112, 212, 311), and English (Eng 201).

COLLEGIATE COURSES

Bot 101, 102. General Botany. A two-term sequence taking up a study of higher plants as living things faced with problems of existence; their fundamental structure; life-histories; physiology; relation to soil, air moisture, temperature, etc.; extent and constitution of the vegetable kingdom as a whole; forms causing plant diseases or producing decay; main characteristics of the principal families of agricultural plants.

Required in Agriculture; freshman year; first and second terms; (Bot 101 required in Forestry, freshman year, first term); 4 credits each term; 1 lecture; 1 recitation; 3 two-hour laboratory periods. Fee \$2.00 each term. Deposit \$1.00 each term. Text: Martin, Botany with Agricultural Applications.

Bot 107, 108, 109. Pharmaceutic Botany. A three-term sequence preparatory to Pharmacognosy and Materia Medica and concentrated upon the study of various plant tissues, identification of drug plants, study of crude and powdered drugs and their identification.

Required in Pharmacy; freshman year; three terms; 3 credits each term; 1 lecture; 1 recitation; 2 two-hour laboratory periods. Fee \$1.50 each term. Deposit \$1.00. Text: Martin, Botany.

Helen M. Gilkey

Bot 202. Principles of Botany, Part I: The Plant Kingdom. A study of representative members of the different groups of plants from lowest to highest comparing their structure and reproductive methods and their position in the scale of plant evolution.

Elective; first term; 3 credits; 1 lecture, 1 recitation; 2 two-hour laboratory periods. Fee \$1.50. Deposit \$1.00. Text: Martin, Botany.

Helen M. Gilkey

Bot 203. Principles of Botany, Part II: The Seed Plants. A study of the structure and vital activities of higher plants and their relation to their environment.

Required in Home Economics; elective for others; sophomore year; any term; 3 credits; 1 lecture; 1 recitation; 2 two-hour laboratory periods. Fee \$1.50. Deposit \$1.00. Text: Martin, Botany.

Margaret Stason

Bot 204. Classification of Plants. A study of the families of higher plants and the identification of weeds, ornamentals, crop plants, etc., as students may elect; field trips for collecting specimens and recording data, and laboratory analysis of material thus collected; practice in drying and mounting plant specimens.

Prerequisite: An elementary course on seed plants. Elective; third term; 3 or more credits; 1 recitation; 2 three-hour laboratory periods or field trips. (Additional periods for additional credit.) Fee \$0.50 each credit. Text: Piper and Beattie, *Flora of the Northwest Coast*.
Helen M. Gilkey

Bot 311. Principles of Plant Pathology. Causes, symptoms, effects, and means of dissemination of disease in plants; principles of plant disease control; laboratory work with various types of plant diseases and the different groups of plant parasites.

Prerequisites: Bot 101 and 102, or their equivalent. Required in Agriculture (plant group); junior year; second term; 4 credits; 2 recitations; 3 two-hour laboratory periods. Fee \$2.00. Deposit \$1.00. Text: Duggar, *Fungous Diseases of Plants*.
C. E. Owens

Bot 312. Fruit Diseases. Causes, symptoms, progress, and control of the important fungous, bacterial, and physiological diseases of orchard trees and small fruits, with emphasis on those of importance in the Pacific Northwest. Studies in the laboratory are supplemented by field excursions.

Prerequisite: Bot 311. Required in Pomology; junior year; third term; 3 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$1.50. Deposit \$1.00. Text: Hesler and Whetzel, *Manual of Fruit Diseases*.
C. E. Owens

Bot 313. Diseases of Field Crops and Vegetables. Similar to Bot 411, but dealing with diseases of field crops and truck and garden vegetables. References: Stevens, *Diseases of Economic Plants*; Taubenhau, *Diseases of Truck Crops*.

Prerequisite: Bot 311. Required in Plant Pathology; junior year; third term; 3 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$1.50. Deposit \$1.00.
C. E. Owens

Bot 321. Plant Physiology. A study of the life processes and vital requirements of the plant as a basis for intelligent agricultural and horticultural practice; physiology of the living plant; response made by the plant to the influences surrounding it; laboratory experiments.

Prerequisites: Bot 101 and 102, or their equivalent, and Qualitative, Quantitative, and Organic Chemistry. Required in Agriculture (plant group); junior year; third term; 4 credits; 1 lecture; 1 recitation; 3 two-hour laboratory periods. Fee \$4.00. Deposit \$2.00. Text: Palladin, *Plant Physiology*.
W. M. Atwood

Bot 341. Range and Pasture Botany. A study of the edible, nonedible, and poisonous plants of the range and pasture, their characteristics, life-histories, methods of reproduction, conditions for growth, their distribution and ecological factors affecting them; relation of grazing to the maintenance of ranges and pastures; methods of preventing stock poisoning or of eradicating poisonous plants. Of interest to students in Animal Husbandry and Dairy Production, and to students in Forestry. Students may register for one additional credit, taking one additional two-hour laboratory period.

Prerequisites: Bot 101 and 102, or equivalent. Elective; second term; 2 credits; 1 recitation; 1 two-hour laboratory period. Fee \$0.50 each credit. Text: Frye and Rigg, *Elementary Flora of the Northwest*.
W. E. Lawrence

Bot 413. Forest Pathology. The parasitic and saprophytic fungi which attack forest trees and destroy structural timber; their effects upon the wood; preventive measures.

Prerequisites: Bot 101 and 102, or their equivalent. Elective; junior or senior year; first term; 2 credits; 1 recitation; 1 two-hour laboratory period. Fee \$1.00. Deposit \$1.00. Text: Rankin, *Manual of Tree Diseases*.
C. E. Owens

Bot 414. Mycology. A study of the different groups of fungi with special attention to parasitic forms, dealing with structure, life-history and classification. An advanced course. Not offered 1922-23.

Prerequisites: Bot 101 and 102, or their equivalent. Elective; senior year; second term; 4 credits; 2 recitations; 3 two-hour laboratory periods. Fee \$2.00. Deposit \$1.00. Text: Stevens, *Fungi*.
H. P. Barss

Bot 415. Plant Pathological Technique. A training course in the technical methods employed in plant pathological investigations; isolation, cultivation, and inoculation of parasitic organisms; record keeping; care of collections; photographic methods, etc. For advanced students.

Prerequisite: Bot 311. Elective; third term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$2.50. Deposit \$2.00.
H. P. Barss

Bot 441. Comparative Morphology and Evolution of Plants. An advanced course aiming to show the tendencies and causes which impel or control evolution within the plant kingdom and designed to broaden the student's knowledge of the different groups of plants by comparison of the organic structure, life-histories, cytological development, and reproductive processes of representative forms. Basic to work in Genetics, Plant Breeding, and advanced biologic study. Offered in alternate years. Not offered in 1922-23.

Prerequisites: Bot 101 and 102, or their equivalent. Elective for advanced students; first term; 4 credits; 1 lecture; 1 recitation; 3 two-hour laboratory periods. Fee \$2.00. Deposit \$2.00. Text: Coulter et al., *A Text-Book of Botany*, Vol. I, Part 1. Coulter, *Evolution of Sex in Plants*. *W. E. Lawrence*

Bot 442. Plant Ecology. A study of the effects on living plants of external influences such as climate, soil, physiography, etc., under natural conditions or under conditions modified by agriculture; native vegetation as an indicator of agricultural possibilities. Of special value to students of Agriculture, Forestry, Grazing, Agricultural Economics, Irrigation and Drainage, Plant Introduction, Geology, and Botany, and any expecting to enter State or Federal field service.

Prerequisites: Bot 101 and 102, or their equivalent. Elective; third term; 3 credits; 1 lecture; 1 recitation; 1 three-hour laboratory period. Fee \$1.50. *W. E. Lawrence*

Bot 443. Plant Histology. An advanced course dealing with the structure, inclusions, activities, and methods of division of the plant cell; development, structure, and relation to function of various types of plant tissues; training on the technique of making temporary and permanent microscopic mounts, including sectioning, staining, etc. Offered in alternate years. Offered in 1922-23.

Prerequisites: Bot 101 and 102, or their equivalent. Elective; first term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$3.00. Deposit \$2.00. Text: Stevens, *Plant Anatomy*. *C. E. Owens*

Bot 444. Advanced Study and Thesis. For students specializing in Botany and Plant Pathology. Investigation of special problems or advanced studies not included in regular courses.

Elective; junior or senior year; any term; credit, hours of work, etc., to be arranged with major professor.

Bot 471. Application of Plant Science in Secondary School Teaching. For prospective teachers of agriculture or natural science in secondary schools. Deals with point of view, methods, materials, texts and equipment in teaching plant science subjects and considers the manner in which the work should be adapted to the interests, needs, and possibilities of any particular community.

Prerequisite: An elementary course in Botany. Elective; first term; 3 credits; 1 lecture; 1 recitation; 2 two-hour laboratory periods or field trips. Fee \$1.50. Deposit \$1.00. *C. E. Owens*

Bot 481, 482, 483. Seminar. The seminar is attended and contributed to by advanced students and instructional staff in the department of Botany and Plant Pathology and consists of reports on advanced botanical studies, extracts of articles along botanical lines

appearing in scientific journals and other publications. Students are required to prepare and present papers on assigned topics.

Required in Botany; senior year; three terms; 1 credit each term; 1 hour a week.

Bot 691, 692, 693. **Graduate Study and Thesis.** Graduate students may register under these numbers for special studies and investigations of graduate grade in any line of work included within the scope of the department of Botany and Plant Pathology such as plant pathology, physiology, morphology, ecology, taxonomy, mycology, histology, range botany, poisonous plants, technique, etc. Thesis work for the master's degree is taken up under these numbers.

Elective for graduate students; any term; credits, hours, prerequisites, etc., are arranged by the instructor in charge of the major line of work pursued, subject to the approval of the head of the department.

VOCATIONAL COURSE

Bot 11. **Plants and Plant Diseases.** Elementary study of the structure and life activities of plants; causes, effects, symptoms, and methods of control of some of the common and destructive diseases of field crops, fruits, and vegetables.

Required in Vocational Curriculum in Agriculture; first term; 3 (non-collegiate) credits; 1 lecture; 1 recitation; 2 two-hour laboratory periods. Fee \$1.50. Deposit \$1.00. Text: Transeau, Science of Plant Life, and Stevens, Diseases of Economic Plants.

C. E. Owens

CHEMISTRY

The foundation courses in General Chemistry consist in familiarizing the student with the more important underlying principles of the science and the fundamentals of laboratory technique. These principles are devolved and illustrated largely through a study of the descriptive chemistry of the non-metallic and metallic elements, including appropriate means for identifying each.

The courses in Analytical Chemistry consist of (a) Qualitative Analysis, by means of which the student is enabled to classify, separate, and identify the components of mixtures and constituents of compounds; (b) Quantitative Analysis, in which he determines the actual quantity of those components and constituents which he has previously learned to separate and identify.

A study of the principles of Organic Chemistry and their applications in the laboratory follows the foregoing courses.

Having completed these, the student is now fairly well prepared to begin specialization in the field of chemistry. The following lines of specialization are suggested:

(1) Agricultural Chemistry. Study and analysis of soils, feeds, fertilizers, dairy and horticultural products; animal nutrition and general experiment station work.

(2) Inorganic Chemistry and Analysis. Study and analysis of minerals, ores, alloys, and the products of metallurgical and other inorganic chemical industries, including advanced inorganic chemistry and a study of the rarer elements and their technical application.

(3) Pharmaceutical and Physiological Chemistry. Study of the chemical processes more intimately associated with foods, drugs, pharmaceutical products, and the products of the human economy, including comprehensive analytical methods, and advanced organic synthesis.

(4) Chemical Engineering. Preparation for the field of industrial chemical technology.

Equipment. The department of Chemistry occupies nearly the whole of Science Hall, excepting the fourth floor which is occupied at present by the School of Pharmacy, and four rooms used by the Experiment Station department of Agricultural Chemistry.

The first floor contains the main general laboratory, the stock room, and the organic laboratory. The general laboratory, designed for practical work in modern chemistry, is well lighted and commodious, with accommodations for eighty students at one time. The general laboratory and the organic laboratory are both contiguous to the stock-room. The organic laboratory accommodates ninety-six students daily. These laboratories are equipped with the necessary apparatus. The laboratory used for Quantitative Analysis is on the second floor. The equipment of this laboratory is adequate to give training in the quantitative methods of chemistry and in most of the analytical work required in the laboratories of modern commercial establishments. The School of Agriculture demands in its students skill in analytical methods, and classes giving this training fill the main quantitative laboratory during the greater part of the day.

COLLEGIATE COURSES

Ch 101, 102, 103. **General Chemistry.** (1) Fundamental principles and their application; the non-metallic elements and their compounds; laboratory work in the identification of anions. A two-week introductory course in elementary physical concepts precedes the regular work. (2) Metallic elements and their compounds; introductory study of chemical equilibrium; theory of solution; law of mass-action

and the periodic law. The laboratory work completes anion classification and identification, and includes study of the reactions of the cations and their identification. Note: Students who have had one year of Chemistry in a standard high school may be permitted to take an examination for credit in Ch 101 and 102 provided their high school credits in Chemistry are not used as entrance units. This examination will be held one week after the opening of the first term. Laboratory note-books must be presented. (3) Metallic elements and their compounds; elementary study of the principles of qualitative analysis; further extension and application of the principles of chemical equilibrium; the law of mass-action; theory of solution; the periodic law; laboratory work in elementary qualitative analysis and, in addition, a few typical exercises in gravimetric and volumetric analysis, including acidimetry and alkalimetry. Ch 101, 102, 103 form a sequence. Credit given only on completion of all three courses or their equivalents.

Required in Agriculture, Home Economics, and Engineering; freshman year; three terms; 3 credits each term; 1 lecture; 1 recitation; 2 two-hour laboratory periods. Fee \$4.50 each term. Deposit \$3.00 each term.

Ch 104. General Chemistry. Fundamental principles and their application; the non-metallic elements and their compounds; the atomic theory; valence; oxidation and reduction reactions studied from the standpoint of the electron theory; introductory study of chemical equilibrium; laboratory work in quantitative applications of the more important chemical principles, and the reactions and means of identification of the common anions.

Prerequisite: High-school Chemistry and Physics. Required in Chemical Engineering, Mining Engineering, and Pharmacy; freshman year; first term; 5 credits; 2 lectures; 2 recitations; 2 three-hour laboratory periods. Fee \$7.50. Deposit \$3.00.

Ch 105. General Chemistry. Continuation of Ch 104. Metallic elements and their compounds; extension of the fundamental principles of the preceding course; chemical equilibrium and the law of mass-action considered quantitatively; solubility products; the periodic law; laboratory work in systematic classification and identification of the common ions, together with numerous quantitative exercises illustrative of the more important chemical principles.

Prerequisite: Ch 104 or equivalent. Required in Chemical Engineering, Mining Engineering, and Pharmacy; freshman year; second term; 5 credits; 2 lectures; 2 recitations; 2 three-hour laboratory periods. Fee \$7.50. Deposit \$3.00.

Ch 106. **General Chemistry.** Continuation of Ch 105. Metallic elements and their compounds. Further development of the principles of the preceding courses; introductory study of complex ions; thermochemistry, electrochemistry, colloid chemistry, and the phase rule.

Prerequisite: Ch 105. Required in Chemical Engineering, Mining Engineering, and Pharmacy; freshman year; third term; 5 credits; 2 lectures; 2 recitations; 2 three-hour laboratory periods. Fee \$7.50. Deposit \$3.00.

Ch 111, 112, 113. **Household Chemistry.** A modified course in general chemistry for those students in Home Economics who do not intend to take the full number of courses in Chemistry required in the degree curriculum. Application of the principles of general chemistry with respect to fuels and air, water, cleansing and bleaching agents; qualitative study of proteins, fats, carbohydrates, leavening agents, food adulterants, and textile fibers. Ch 111 and 113 not accepted as prerequisites to Ch 102 and 221 respectively.

Elective in Home Economics; freshman year; three terms; 3 credits each term; 2 recitations; 2 two-hour laboratory periods. Fee \$4.50 each term. Deposit \$3.00 each term.

Ch 221. **Organic Chemistry.** Study of occurrence, methods of preparation, characteristic reactions, and properties of the more common organic compounds; the paraffins, alcohols, aldehydes, ketones, ethers, fatty acids, esters, benzene, phenols, aniline and a few dyes.

Prerequisite: Ch 103. Required in Home Economics; sophomore year; first term; 5 credits; 2 lectures; 2 recitations; 3 two-hour laboratory periods. Fee \$7.50. Deposit \$3.00.

Ch 222, 223. **Chemistry of Foods and Digestion.** Nature of the carbohydrates, proteins, fats in common food stuffs; qualitative tests for the same; chemical changes foods undergo in the process of digestion and metabolism.

Prerequisite: Ch 221 or 226. Required in Home Economics; sophomore year; second and third terms; $2\frac{1}{2}$ credits each term; 1 lecture; 1 recitation; 2 two-hour laboratory periods. Fee \$3.75 each term. Deposit \$3.00 each term.

Ch 224. **Organic Chemistry.** A course similar to Ch 221, but dealing also with the carbohydrates, proteins, and other compounds of carbon which are of special importance along agricultural and biochemical lines.

Prerequisites: Ch 103, 247. Required in Agriculture; sophomore year; second term; 5 credits; 2 lectures; 2 recitations; 2 three-hour laboratory periods. Fee \$7.50. Deposit \$3.00.

Ch 226, 227. **Organic Chemistry.** A two-term sequence in the chemistry of the carbon compounds; the aliphatics, aromatics, and derivatives, including methods of separation, preparation, identification, properties, and characteristic reactions.

Prerequisites: Ch 106. Required in Pharmacy (sophomore year); first and second terms; 5 credits each term; 2 lectures; 2 recitations; 2 three-hour laboratory periods. Fee \$7.50 each term. Deposit \$4.00.

Ch 228. **Chemistry of Fuels.** A course of lectures for Mining and other qualified students. The course deals with the manner of occurrence, winning and fractionation of crude oils; their uses; by-products and their uses; destructive distillation of wood and some of its by-products; destructive distillation of coal and its by-products, including gas, coke, and tar. This course is given to familiarize the student with the products themselves, rather than to present either geological or chemical engineering points of view.

Prerequisite: Ch 104, 105, 106. Required in Mines; sophomore year; third term; 3 credits; 4 lectures.

Ch 231. **Qualitative Analysis.** The classification, separation, identification of the common ions and cations; dissolving and analysis of solid substances, including salts, alloys, etc.

Prerequisite: Ch 106 or equivalent. Required in Mining Engineering; sophomore year; first term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$3.00.

Ch 232. **Qualitative Analysis.** Similar to Ch 231 but more extended. Some work is given in the identification of the less common metals, and qualitative tests are made with boiler scale and cement.

Prerequisite: Ch 106 or equivalent. Elective in Mines; sophomore year; first term; 5 credits; 2 lectures; 1 recitation; 4 three-hour laboratory periods. Fee \$7.50. Deposit \$3.00.

Ch 233. **Qualitative Analysis.** Advanced Course. Review of the theory and practice of analytical operations and the application of the principles of the preceding courses in General Chemistry and Qualitative Analysis. The separation and identification of the less common elements such as selenium, tellurium, vanadium, and tungsten. Some practice is given in "dry analysis" so as to enable the student to grasp these methods of attack in complete analysis.

Prerequisites: Ch 106 and 131, or equivalent. Elective; sophomore year; third term; 5 credits; 1 lecture; 2 recitations; 3 three-hour laboratory periods. Fee \$7.50. Deposit \$3.00.

Ch 241. **Quantitative Analysis.** Elementary gravimetric and volumetric analysis as far as through oxidation and reduction.

Required in Mining Engineering; sophomore year; second term; 3 credits; 1 lecture or recitation; 9 hours laboratory work. Fee \$4.50. Deposit \$3.00.

Ch 242. **Quantitative Analysis.** Continuation of Ch 241. Gravimetric and volumetric analysis of limestone, iron, lead, zinc, arsenic, and antimony ores, and various products from the copper refineries.

Elective in Mines; sophomore year; third term; 3 credits; 1 lecture or recitation; 9 hours laboratory work. Fee \$4.50. Deposit \$3.00.

Ch 244. **Quantitative Analysis.** Elementary quantitative analysis.

Required in Pharmacy and Chemical Engineering; sophomore year; second term; 5 credits; 1 lecture; 1 recitation; 12 hours laboratory work. Fee \$7.50. Deposit \$3.00.

Ch 245. **Quantitative Analysis.** Continuation of Ch 244. Analysis of steels, brasses, and metallurgical and industrial products.

Required in Chemical Engineering; 1 recitation; 1 lecture; 12 hours laboratory work. Fee \$7.50. Deposit \$3.00.

Ch 247. **Quantitative Analysis.** For Agricultural students. Exercises in gravimetric and volumetric analysis of various materials related to agricultural pursuits, with a view of teaching skill in the manipulation of instruments of precision, especially in the use of the analytical balance; stoichiometrical problems.

Prerequisite: Ch 103. Required in Agriculture; sophomore year; first term; 5 credits; 1 lecture; 2 recitations; 3 three-hour laboratory periods. Fee \$7.50. Deposit \$3.00.

Ch 251. **Agricultural Chemistry.** The lectures lay the foundation for the correlation of plant chemistry, soil chemistry, and fertilizer chemistry, and emphasize the economic importance of certain groups of compounds—as the carbohydrates, fats, and proteins—which characterize our commonly-grown farm crops. The laboratory work supplements the lecture work.

Prerequisites: Ch 224, 247. Required in Agriculture; sophomore year; third term; 5 credits; 3 lectures; 3 three-hour laboratory periods (one devoted to supervised study and recitation). Fee \$7.50. Deposit \$3.00.

Ch 321. **Textile Identification.** Identification of the different materials used in the textile industries.

Prerequisites: Ch 103, 221. Elective; junior year; third term; 2 credits; 1 lecture; 2 two-hour laboratory periods. Fee \$2.00. Deposit \$3.00.

Ch 322, 323. **Organic Chemistry.** A two-term sequence in organic chemistry planned for students specializing in science courses. A general survey of both the aliphatic and aromatic series, including preparation, properties, interpretation of reactions, and commercial value of the main groups of compounds.

Prerequisite: Ch 106. Required in Chemical Engineering; first and second terms; 5 credits each term; 2 lectures; 2 recitations; 2 three-hour laboratory periods. Fee \$7.50 each term. Deposit \$4.00 each term.

Ch 328. **Organic Analysis.** Qualitative tests and analysis of some organic compounds and mixtures; quantitative determination of carbon, hydrogen, nitrogen, and sulfur in organic compounds.

Prerequisites: Ch 227, 244. Required in Chemical Engineering; junior year; third term; 5 credits; 1 recitation; 4 three-hour laboratory periods. Fee \$7.50. Deposit \$3.00.

Ch 351. **Dairy Chemistry.** Chemistry of milk, butter, oleomargarine, cheese, and other dairy products.

Prerequisite: Ch 247 or equivalent. Elective; junior year; first term; 3 credits; 3 three-hour laboratory periods; recitations at discretion of instructor during laboratory periods. Fee \$4.50. Deposit \$3.00.

Ch 352. **Chemistry of Spraying Materials.** Chemistry of the various insecticides and fungicides and inspection of a number of the commercial spraying materials.

Prerequisite: Ch 247 or equivalent. Elective; junior year; second term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$3.00.

Ch 353. **Chemistry of Horticultural Products.** Chemistry of fruits and fruit products, vegetable and vegetable products, as related to industrial processes.

Prerequisite: Ch 244 or equivalent. Elective; junior year; third term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$3.00.

Ch 355. **Chemistry of Soil Fertility.** This course is concerned primarily with methods and principles involved in the chemical work required in soil fertility investigations. Acidity, alkalinity, carbonates, ammonia, nitrates, organic matter, and humus determinations are most prominent. Especially for juniors in Soils.

Prerequisites: Ch 224, 247. Elective; junior year; second term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$3.00.

Ch 361. **Physiological Chemistry of Nutrition.** Qualitative tests and quantitative analysis of the end products of metabolism. Effects of changes in diet on the composition of the blood and urine.

Prerequisites: Ch 221 and 222. Elective in Home Economics; junior year; 5 credits; 1 lecture; 1 recitation; 3 four-hour laboratory periods. Fee \$7.50. Deposit \$3.00.

Ch 371. **Alkaloidal Testing.** Study of the properties of the common alkaloidal drugs; testing for detecting and methods for isolating the common poisons from plants and animal tissues.

Prerequisites: Ch 227, 224. Required in Pharmacy; junior year; first term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$3.00.

Ch 374. **Drug Assaying.** Quantitative estimation of the active principles of crude drugs and their preparations, such as solid and fluid extracts, tinctures, pills, etc.

Prerequisite: Ch 371. Required in Pharmacy; junior year; second term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$3.00.

Ch 375. **Advanced Drug Assaying.** An advanced course for students in Pharmacy who intend to enter manufacturing pharmaceutical laboratories.

Prerequisite: Ch 374. Elective; senior year; first term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$3.00.

Ch 377. **Food and Drug Analysis.** Designed to fit students for positions in food and drug laboratories. Qualitative and quantitative analysis of food and drug products commonly subject to adulteration.

Prerequisites: Ch 227, 224; Bot 109. Required in Pharmacy; senior year; second term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$3.00.

Ch 378. **Advanced Food and Drug Analysis.** Continuation of Ch 377.

Prerequisite: Ch 377. Elective in Pharmacy; senior year; second term; 3 credits; 3 three-hour laboratory periods. Fee \$4.50. Deposit \$3.00.

Ch 411. **Elementary Glass Blowing and Repairing.** Elements of the art of welding, cutting, and grinding glass. Each student must procure his own glass and files. Especially for those who expect to become instructors in high schools.

Elective; junior or senior year; 1 credit; 1 three-hour laboratory period. Fee \$3.00. Text: Woollatt, Laboratory Arts. Frary, Glass Blowing.

Ch 421, 422, 423. **Advanced Organic Chemistry.** Lectures and assigned readings on special topics in organic chemistry; class reactions; the mechanism of important reactions; organic nitrogen

derivatives; proteins; carbohydrates; geometric isomerism; optical isomerism; trivalent carbon; benzene; naphthalene; pyridines; and electronic structure of some organic compounds.

Prerequisites: Ch 228, 229, or 322, 323. Two lectures; 2 credits each term.

Ch 429. **Organic Synthesis.** The methods of synthesis for the more complex organic compounds; acetoacetic ester, malonic ester; Grignard's reagents; the zinc alkyls; diazonium compounds and their use in synthetic chemistry.

Prerequisites: Ch 227, 244. Elective; senior year; first term; 5 credits; 2 recitations; 3 three-hour laboratory periods. Fee \$7.50. Deposit \$3.00.

Ch 461. **Physiological Chemistry.** Properties, chemical nature, and reactions of the important body tissues, enzyme action, digestion, metabolism; blood tests and urine analysis.

Prerequisites: Ch 227, 224, 222. Required in Pharmacy; senior year; third term; 5 credits; 2 recitations; 3 three-hour laboratory periods. Fee \$7.50. Deposit \$3.00.

Ch 481, 482, 483. **Physical Chemistry.** Molecular weight determinations; properties of liquids; dilute solutions; solubilities; conducting of solutions; chemical equilibrium; velocity of reactions; thermochemical measurements.

Prerequisites: Ch 106, 233, 245; Mth 131. Required in Chemical Engineering; senior year; three terms; 3 credits each term; 3 three-hour laboratory periods. Fee \$4.50 each term. Deposit \$3.00 each term.

Ch 490. **Minor Seminar in Chemistry.** Required of student assistants in Chemistry; open also to students who intend to teach elementary Chemistry in high schools. Topics covered: the fundamental principles of Chemistry and methods of presentation to classes; discussion of note-books and examination papers; methods of grading; classroom and laboratory administration; assembling apparatus; laboratory furnishings; repairs.

Prerequisites: Ch 106, 244, 231, 481. Elective; graduate year; 3 lectures or laboratory periods. Fees and deposits to be arranged.

Ch 491, 492, 493. **Advanced Inorganic Chemistry.** A graduate course intended to classify and correlate the student's knowledge of the field of chemistry as viewed from the several standpoints of the various courses he has pursued. Lectures, collateral readings, and discussions on the periodic system from the point of view of Mendelejeff, Lothar Meyer, Harkins, and Werner; valency; X-ray and crystal structure; molecular symmetry as exemplified in crystal form; chemistry of the rarer elements; higher order compounds;

complex inorganic acids; inorganic stereochemistry and isomerism; electron theory and electromerism; correlation of inorganic and organic Chemistry based on the electron theory; the later ideas of valency; cooling curves and thermal analysis; colloids; and similar topics.

Elective; any term; 2 meetings each week.

Ch 494. History of Chemistry. Rise and development of chemical theories and laws.

Prerequisite: Ch 106 or equivalent. Elective; second term; 2 credits; 2 lectures or recitations.

VOCATIONAL COURSE

Ch 51. Dairy Chemistry. A very elementary course of laboratory exercises designed to acquaint creamery operators with the principles and technique involved in such laboratory work as the testing of milk and cream for acidity, total solids, ash, etc.

Required in Dairy Manufactures Short Course; second term; 1 (non-collegiate) credit; 1 three-hour laboratory period. Fee \$1.50. Deposit \$2.00.

ENGLISH LANGUAGE AND LITERATURE

It is the aim of this department to teach the student that the essential part of any effective composition, whether oral or written, is thought well organized and well expressed; that to comprehend clearly and to feel strongly what he has to say, are the indispensable conditions of making others comprehend and feel. Thought so organized and expressed is found in good literature; this he is taught to appreciate. In all the collegiate courses in English the work is correlated with that offered in the other departments, to bring it into harmony with the spirit of the institution.

Equipment. The College Library, with its excellent resources in general and technical literature, including all the leading periodicals, affords abundant opportunity for the student in English to carry on his studies with profit and satisfaction. In addition, the opportunities for expression and appreciation afforded by the student activities and organizations—forensic, dramatic, literary, and journalistic—are exceptionally attractive. (For courses in Public Speaking and Dramatics see pages 181-183.)

COLLEGIATE COURSES

Eng 101. English Composition. Review of principles of rhetoric; practice in written and oral composition; frequent conferences between instructor and student as aids in meeting individual needs.

Note: All students registering in Eng 101 are required to have passed the general examination given on the first Wednesday of the term; see section on General Information, p. 77.

Prerequisites: Three units of English earned in standard high schools. Required in all schools; freshman year (in Engineering, freshman or sophomore year); first term; 3 credits; 3 recitations. Fee \$0.25. Texts: Foerster and Steadman, *Sentences and Thinking*. Greever and Jones, *Century Handbook*.

Eng 102. English Composition. Continuation of Eng 101. Reading, practice writing, and discussion to cultivate clearness of thought and accuracy of expression. The work is modified and adapted to meet the requirements of the students in the several schools.

Prerequisite: Eng 101. Required in all schools except Commerce (see Eng 105) (in Engineering, freshman or sophomore year; in other schools, freshman year); second term; 3 credits; 3 recitations. Fee \$0.25. Text: Fulton, *Expository Writing*.

Eng 103. Technical Composition. Classes organized according to schools or curricula. Material for practice writing is worked out in active cooperation with instructors in technical courses. Literature of contemporary interest is used as a basis for discussion and writing.

Prerequisite: Eng 102. Required in all schools except in Commerce (see Eng 106) (in Forestry, sophomore year; in Engineering, freshman or sophomore year; in other schools, freshman year); third term; 3 credits; 3 recitations. Texts: *Engineering*: Sypherd, *Handbook of English for Engineers*. *Home Economics*: Moore, *English Composition for College Women*.

Eng 105. Business Correspondence. The business letter in detail, special attention being given to letters of application, letters of inquiry and information, circular letters, letters of complaint, sales letters, follow-up letters, and collection letters.

Prerequisite: Eng 101. Required in Commerce; freshman year; second term; 3 credits; 3 recitations. Fee \$0.25. Text: Butler and Burd, *Commercial Correspondence*.

S. H. Peterson, C. Naether, H. Tucker

Eng 106. Advanced Business English. The preparation of manuscript and copy for the printer; study of the advertising circular, students being required to plan and complete circulars for various advertising purposes; practice in writing informal trade agreements, specifications, and other business forms; study of postal regulations.

Prerequisite: Eng 105 or equivalent. Required in Commerce; freshman year; third term; 3 credits; 3 recitations. Text: Butler and Burd, Commercial Correspondence.

S. H. Peterson, C. Naether, H. Tucker

Eng 201. **Advanced English Composition.** The object of this course is to develop facility and clarity of expression. Intensive study of the popular essays; the biography, and the criticism, as special forms of exposition; exercises in analysis and in the application of the mechanics of expository outlines; long and short themes.

Prerequisites: Eng 101, 102, 103. Elective; sophomore or junior year; any term; 3 credits; 3 recitations. Text: Gardner, The Forms of Prose Literature.

Eng 211. **The English Essay.** Study of structure of the essay; the essay as expression of national life and thought; the growth of the economic, critical, historical, and personal essay. Class and individual assignments from Macaulay, Arnold, Pater, Ruskin, Stevenson, Emerson, and others; lectures and reports.

Prerequisites: Eng 101, 102, 103, or equivalent. Elective; sophomore or junior year; first term; 3 credits; 3 recitations. Texts: Brown, The Writer's Art. Bronson, English Essays. Hufford, Essays of Ruskin.

F. Berchtold

Eng 212. **The English Drama.** Study of the structure and technique of the drama considered as a distinct literary type; differentiation of tragedy, comedy, melodrama, and farce; study of plot, character, and setting, with reading and analysis of plays for verification of principles derived. Reports, oral and written, on plays and topics assigned for collateral reading.

Prerequisites: Eng 101, 102, 103, or equivalent. Elective; sophomore year; second term; 3 recitations; 3 credits. Text: Woodbridge, The Drama: Its Laws and Its Technique.

L. B. Baldwin

Eng 213. **The Short-Story.** Reading, study, and composition of the short-story as a distinct literary type; analysis of three prescribed stories emphasizing respectively plot, character, and setting. Lectures, recitations, tests.

Prerequisites: Eng 101, 102, 103, or equivalent. Elective; sophomore or junior year; third term; 3 credits; 4 recitations. Text: Brander Mathews, Short-Story—Specimens Illustrating Its Development.

L. B. Baldwin

Eng 214. **The Novel.** Study of the structure and content of the realistic as well as the romantic novel; growth of the novel of manner of character, of the problem novel; study of the modification, variation and persistence of the larger categories of fiction. Class and individual assignments, lectures, and reports.

Prerequisites: Eng 101, 102, 103. Elective; sophomore or junior year; second term; 3 credits; 3 recitations. Texts: Cross, Development of the English Novel. Burton, Masters of the English Novel.
F. Berchtold

Eng 321. **English Literature.** A general outline course in the history of English literature. The aim is to cultivate an appreciation of what is excellent in quality and form. Masterpieces representing the best thought and form are studied in class or assigned to students for careful reading and reports. Field of study: English literature from its beginning to the end of the eighteenth century.

Elective; junior year; first term; 3 credits; 3 recitations. Text: Moody and Lovett, History of English Literature. *F. Berchtold*

Eng 322. **English Literature.** A continuation of Eng 321. Study of the master minds of the nineteenth century. Lectures, readings and discussion; critical reports on assigned topics required from all the students.

Elective; junior year; second term; 3 credits; 3 recitations. Text: Moody and Lovett, History of English Literature. *F. Berchtold*

Eng 323. **Contemporary English Literature.** English literature of the late nineteenth and twentieth centuries.

Elective; junior year; third term; 3 credits; 3 recitations. Text: Cunliffe, Century Readings in English Literature. *F. Berchtold*

Eng 431. **American Literature.** Study of the growth and development of literature in our country. Emphasis placed on the study of writers of the nineteenth century, including Irving, Cooper, Bryant, Poe, Hawthorne, Longfellow, Holmes, and Lowell, and others. Lectures; class study; class reading; reports on assigned topics; essays.

Elective; junior or senior year; first term; 3 credits; 3 recitations. Text: Boynton, American Literature. *F. Berchtold*

Eng 432. **American Literature.** A continuation of Eng 431. The metropolitan writers; literature in the South; literature in the West; present schools and tendencies. Lectures; classroom work; reports; essays.

Elective; junior or senior year; second term; 3 credits; 3 recitations. Text: Boynton, American Literature. *F. Berchtold*

Eng 433. **American Literature.** A continuation of Eng 432. Study of American writers of the twentieth century, including the more important literature of the Great War. Contemporary American periodical literature. Lectures; assigned readings; reports; essays.

Elective; junior or senior year; second term; 3 credits; 3 recitations. Text: Pattee, *American Literature Since 1870*. *F. Berchtold*

Eng 441. **Tennyson.** A study of the man as representative poet of the nineteenth century and of his outlook upon life, together with an introduction to the study of poetry through a careful reading of his more significant poems.

Elective; junior or senior year; first term; 3 credits; 2 lectures; 1 recitation. *M. E. Smith*

Eng 442. **Browning.** The most noteworthy of the shorter poems are read and carefully studied. The purpose of the course is to remove difficulties and to bring the student into touch with the robust, optimistic personality of the poet.

Elective; junior or senior year; second term; 3 credits; 2 lectures; 1 recitation. *M. E. Smith*

Eng 443. **Shakespeare.** A careful reading of plays of various types with a view to the forming of some estimate of the poet's genius and outlook. Attention is paid to the relation between the Elizabethan Drama and the modern play.

Elective; junior or senior year; third term; 3 credits; 2 lectures; 1 recitation. *M. E. Smith*

Eng 444. **Present-Day American Poetry.** A survey of the most vital of the more recent work of present-day American poets, including Robert Frost, E. A. Robinson, Vachel Lindsay, E. L. Masters, Amy Lowell, and a number of others. For comparison, brief notice will be given to such British poets as Hardy, Masfield, and Noyes. Lecture, discussion, reports.

Elective; junior or senior year; first term; 3 credits; 3 lectures. *M. E. Smith*

Eng 481, 482, 483. **Seminar.** Reading and analysis of the recognized masterpieces of continental European literature in approved translations. French, Italian, Spanish—Scandinavian, Teutonic—Russian, Polish.

Elective; three terms; 2 credits each term; 2 recitations.

F. Berchtold

VOCATIONAL COURSES

Eng 11k. **Corrective English.** For students who fail to pass the classificatory examination for Eng 101 (college freshman English) and all who are deficient in the fundamentals of English grammar.

Prerequisite: Three years of high school English. Any term; no college credit; 3 recitations. Text: Frazee and Wells, *Grammar and Practice*.

Eng 11. **Vocational English, A.** English grammar.

Vocational curricula; first year; first term; 3 (non-collegiate) credits; 3 recitations. Text: Frazee and Wells, Grammar and Practice.

Eng 12. **Vocational English, B.** English grammar; letters and business forms.

Prerequisite: Eng 11. Vocational curricula; first year; second term; 3 (non-collegiate) credits; 3 recitations. Text: Frazee and Wells, Grammar and Practice.

Eng 13. **Vocational English, C.** English grammar; beginnings of composition.

Prerequisite: Eng 12. Vocational curricula; first year; third term; 3 (non-collegiate) credits; 3 recitations. Text: Buehler, Practical Exercises in English.

Eng 21. **Vocational English, D.** Elementary composition.

Prerequisite: One year high school English, or Eng 11, 12, 13. Vocational curricula; second year; first term; 3 (non-collegiate) credits; 3 recitations. Text: Genung and Hanson, Outlines of Composition and Rhetoric.

Eng 22. **Vocational English, E.** Continuation of Eng 21.

Prerequisite: Eng 21. Vocational curricula; second year; second term; 3 (non-collegiate) credits; 3 recitations. Text: Genung and Hanson, Outlines of Composition and Rhetoric.

Eng 23. **Vocational English, F.** Continuation of Eng 22.

Prerequisite: Eng 22. Vocational curricula; second year; third term; 3 (non-collegiate) credits; 3 recitations. Text: Genung and Hanson, Outlines of Composition and Rhetoric.

Eng 31. **Vocational English, G.** Advanced composition.

Prerequisite: Two years high school English or Eng 23. Vocational curricula; third year; first term; 3 (non-collegiate) credits; 3 recitations. Text: Hitchcock, Composition and Rhetoric.

Eng 32. **Vocational English, H.** Continuation of Eng 31.

Prerequisite: Eng 31. Vocational curricula; third year; second term; 3 (non-collegiate) credits; 3 recitations. Text: Hitchcock, Composition and Rhetoric.

Eng 33. **Vocational English, I.** Continuation of Eng 32.

Prerequisite: Eng 32. Vocational curricula; third year; third term; 3 (non-collegiate) credits; 3 recitations. Text: Hitchcock, Composition and Rhetoric.

ENTOMOLOGY

The courses in Entomology are planned to acquaint the student with the proper relationship of entomology to general agriculture; to prepare students for specialized entomological training; and to meet the needs of students from other departments who desire work in Entomology. Two fields of advanced work in Entomology are offered: Applied Entomology and Forest Entomology.

The general courses in Economic Entomology are designed to provide the student with a practical grasp of the principles of applied Entomology including a knowledge of the commoner pests, their general habits and life-history, and the application of the most approved principles in insect-pest control.

Forest Entomology includes a general consideration of the main insect groups and their relationships. An intensive study of the main groups of forest insects is made and practical investigation of forest areas is assigned in order to teach the type and extent of insect infestation, methods in forest surveys and in report writing, and the principles underlying forest insect control.

Advanced courses are planned to equip students specializing in Entomology with a fundamental groundwork in the science sufficient to prepare them for effective service in applied Entomology and to fit them for advanced research study.

Equipment. This department occupies rooms on the third floor of Agricultural Hall. The laboratories are well equipped for teaching general Entomology and fairly well equipped for advanced research work. In the museum are 5000 determined species of insects, including a representative collection of Oregon material. A display of Ricker mounts and St. Louis boxes containing life-history studies of injurious forms and their typical injury are available. The entomological library is well supplied with old volumes, complete sets of entomological periodicals, reports, and memoirs. Through the courtesy of the librarian of the United States Department of Agriculture students may borrow entomological literature from the library of the Department of Agriculture and the Congressional library.

COLLEGIATE COURSES

Ent 131, 132, 133. **Commercial Bee Culture.** Designed primarily for the student who contemplates taking up honey production as an occupation. The course includes a study of the selection and preparation of equipment; the biology and life-history of the honey-bee; honey flora; fall, winter, spring, and summer management; marketing; disease control.

Elective; three terms; 3 credits each term; 2 recitations; 1 three-hour laboratory period. Fee 2.00 each term. Text: Phillips, *Bee Keeping*. *H. A. Scullen*

Ent 231, 232, 233. **Advanced Commercial Bee Culture.** Designed for students preparing for educational work in bee culture, inspection work, or extensive honey production. The course includes a study of apiary management, queen rearing, disease control, inspection work, etc.

Prerequisites: Ent 131, 132, 133, or 331. Elective; three terms; 4 credits each term; 3 recitations; 1 three-hour laboratory period. Fee \$2.00 each term. *H. A. Scullen*

Ent 301. **Principles of Economic Entomology.** Designed primarily for agricultural students. A consideration of typical economic forms of insects in the principal orders and more important families, and of the principles of insect-pest control.

Prerequisite: ZP 130. Required in Agriculture (plant group); junior year; first term; 4 credits; 3 recitations; 2 two-hour laboratory periods. Fee \$2.00. Text: Fernald, *Applied Entomology*.

L. Lovett, W. J. Chamberlin

Ent 303. **General Entomology.** Collection, preservation, and elementary classification of insects: In field collecting, the economic aspects are emphasized. Life-history studies, the use of breeding cages, and practice in compiling field and laboratory notes receive attention.

Prerequisite: Ent 301. Required in Entomology; junior year; third term; 4 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$3.00. Text: Comstock, *Manual for the Study of Insects*.

W. J. Chamberlin

Ent 321. **Forest Entomology.** An intensive study of insects injurious to forests and forest products, forest insect surveys, and the principles of forest insect control.

Required in Forestry; junior year; second term; 4 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$2.00.

W. J. Chamberlin

Ent 331. **Bee Culture.** A practical course in actual apiary manipulations designed primarily for students interested in Horticulture. The College has a small apiary where the simpler manipulations may be mastered.

Elective; third term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee 3.00. Text: Phillips, *Beekeeping*. *H. A. Scullen*

Ent 351. **Insect Morphology.** A study of the fundamentals of external, internal, and comparative morphology of insects including

adaptive structures and their utility, and wing venation. Especial attention is given to structures used in classification.

Prerequisite: Ent 301. Required in Entomology; junior year; second term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$2.00. *F. H. Lathrop*

Ent 404. **Advanced Economic Entomology.** An intensive consideration of specific insect pests of farm, garden, and orchard particularly of the Northwest, and their control; latest developments in insecticides and their uses.

Prerequisite: Ent 301. Required in Entomology; elective to others; senior year; first term; 3 credits; 3 recitations or lectures; 1 three-hour laboratory period. Text: Sanderson and Peairs, *Insect Pests of Farm, Garden, and Orchard*. *L. Lovett*

Ent 422. **Forest Entomology.** A continuation of Ent 321.

Elective; senior year; first term; 3 credits; 2 recitations or lectures; 1 three-hour laboratory period. Fee \$2.00. *W. J. Chamberlin*

Ent 452. **Insect Ecology.** A study of insects in relation to their surroundings, considering the interrelations of insects with each other and with other animals and plants; influence of climate and other natural phenomena upon the distribution and activities of insects and application of these factors to Economic Entomology.

Prerequisite: Ent 303. Required in Entomology; senior year; second term; 5 credits; 3 recitations; 2 two-hour laboratory periods. Fee \$3.00. Text: Folsom, *Entomology with Reference to Its Biological and Economic Aspects*. *F. H. Lathrop*

Ent 453. **Insect Taxonomy.** The collection, preservation, and classification of insects of the several orders; intensive study of insects of selected groups; attention to phylogenetic relationships and distribution.

Prerequisite: Ent 307. Required in Entomology; senior year; third term; 5 credits; 2 recitations; 2 three-hour laboratory periods. *F. H. Lathrop*

Ent 473. **The Teaching of Entomology.** Designed primarily for high school teachers. The principles of Entomology including materials and methods.

Prerequisites: Bot 471, ZP 472. Elective to seniors and graduate students; third term; 5 credits; 4 lectures; 1 three-hour laboratory period. Fee \$2.00.

Ent 481, 482, 483. **Seminar.** Reading, discussing, and abstracting of the leading articles on entomological topics as they appear in current scientific literature.

Elective to senior and graduate students; three terms; 1 credit each term. *L. Lovett*

Ent 691, 692, 693. **Advanced Thesis and Research Methods.** A course offered only for graduate students. Students select problems in Applied Entomology; problems in Insect Ecology; monographic problems, etc.; emphasis on methods in research.

Elective to graduate students; three terms; credits to be arranged. *L. Lovett*

VOCATIONAL COURSES

Ent 13. **Vocational Bee Culture.** Designed to meet the needs of the bee keeper who desires to improve his technique and increase his knowledge of commercial bee culture. Includes equipment, manipulation, disease control, queen rearing.

Bee Culture Short Course; 5 (non-collegiate) credits; 8 lectures; 8 two-hour laboratory periods. Fee \$3.00. *H. A. Scullen*

Ent 14. **Injurious Insects.** A practical course in Entomology, including the life-history, habits, and control of insects of farm, garden, and orchard.

Required in Agriculture Vocational Curriculum; third term; 3 (non-collegiate) credits; 2 recitations; 1 two-hour laboratory period. Fee \$1.00. Text: Osburn, Economic Entomology.

W. J. Chamberlin

HISTORY

A knowledge of history is fundamental to leadership. Courses in History are required in the School of Commerce and are offered in all other schools of the College. The instruction is given largely by lectures, supplemented by the reference facilities of the College Library.

COURSES

Hst 124. **American Exploration and Colonization.**

Elective; first term; 3 credits; 3 recitations. *J. B. Horner*

Hst 125. **American History.** Political, constitutional, and economic history of the United States from the Revolution to the Civil War.

Elective; first term; 3 credits; 3 recitations. *J. B. Horner*

Hst 126. **Recent History of the United States.** History of the United States of America from the Civil War to the present time. Collateral with the text, such matters as the negro problem, the industrial revolution, capitalism and socialism, free silver, direct

government, woman suffrage, the new nationalism, imperialism, the labor movement, the Panama-Colombia question, our relations with Europe and the Latin-American republics, are discussed.

Required in Industrial Arts (sophomore year) and in Commerce (freshman year); second or third term; 3 credits; 3 recitations.

J. B. Horner

Hst 212. European History I. This course includes study of European history from A. D. 1500 to the banishment of Napoleon.

Required in Industrial Arts and Commerce; sophomore year; first or second term; 3 credits; 3 recitations.

W. H. Ellison

Hst 213. European History II. This course comprises a study of Europe from the fall of Napoleon to the present time.

Required in Industrial Arts and Commerce; sophomore year; second or third term; 3 credits; 3 recitations.

W. H. Ellison

Hst 331. History of South America. The course includes the history of South America, Mexico, and Central America. Lectures and reading.

Elective; junior year; first or second term; 3 credits; 3 recitations.

W. H. Ellison

Hst 340. History of Oregon. Includes history of Old Oregon now known as the Northwest States. Five epochs: early explorations; fur trade and colonization; provisional government; territorial government; state government; Indian folk-lore; history of Oregon literature.

Required in Commerce (junior year); elective to all other juniors or seniors; any term; 3 credits; 3 recitations. Text: Horner, Oregon.

J. B. Horner

Hst 351. Representative Men and Women. Study of American leaders of thought and action. Students may elect fifty percent of their allotment of biographical reference work, subject to approval of the instructor. Lectures, assigned reading, and discussion.

Elective; junior year; third term; 3 credits; 3 recitations.

W. H. Ellison

Hst 361. History of the Pacific Ocean Area. The history of the activities of European peoples and of the United States in the Pacific Ocean and adjacent regions; study of the struggle for political and economic leadership; consideration of the present situation and problems within the area.

Elective; first or second term; junior or senior year; 3 credits; 3 recitations.

W. H. Ellison

Hst 411. History of the British Empire. A coherent view of the larger factors influencing the national development from early times to the British Empire of today.

Elective; senior year; first term; 3 credits; 3 recitations.

W. H. Ellison

Hst 421. American Diplomatic History. History of the chief events in American foreign affairs; changed policies of our Government; character studies of the leading men in our diplomatic work; application of our experience to present problems.

Elective; senior year; third term; 3 credits; 3 recitations.

W. H. Ellison

MATHEMATICS

COLLEGIATE COURSES

Mth 101. Counting Room Mathematics. Logarithms, simple interest, compound interest, nominal and effective rates of interest, present worth and discounts, with emphasis placed upon basic principles of the mathematical theory of interest. Laboratory instruction on calculating machines.

Required in Commerce; freshman year; any term; 3 credits; 3 recitations; 1 two-hour laboratory period.*

F. C. Kent

Mth 102. Mathematics of Investment. Applications of the mathematical theory of interest to annuities, amortization, bonds, sinking funds, and depreciation.

Prerequisite: Mth 101. Required in Commerce, freshman year; any term; 3 credits; 3 recitations.

F. C. Kent

Mth 103. Introduction to Mathematical Statistics. An elementary recitation-laboratory course dealing with graphic representation of data, frequency curves, curve smoothing, calculation of averages, standard deviation, probable error of mean and of standard deviation, correlation table, ratio and coefficient, curves of regression.

Prerequisites: Mth 101; 2 units of high school mathematics. Required in Commerce; freshman year; any term; 3 credits; 2 recitations; 1 two-hour laboratory period. Text: West, Introduction to Mathematical Statistics.

F. C. Kent

Mth 104. Advanced Calculating Machine Course. Instruction given on standard types of calculating machines with a view to practical office work.

Prerequisite: Mth 101. Elective; second or third term; 2 credits; 1 recitation; 5 one-hour laboratory periods.

*Upon approval by the instructor, the laboratory instruction upon calculating machines may be deferred and taken in connection with Mth 102 or Mth 103.

Mth 111. Plane Trigonometry. This course includes functions of acute angles, right angles, functions of any angle, relations between functions, inverse functions, trigonometric equations, and oblique triangles. Considerable time is devoted to the deduction of trigonometric formulae, study of trigonometric identities, and the solution of practical problems.

Required in Engineering; freshman year; any term; 4 credits; 5 recitations.

*N. Tartar, H. L. Beard, J. A. van Groos,
C. W. Vandewalker, G. A. Williams*

Mth 121. Algebra. A course for freshmen in Engineering whose work in Mth 111 discloses need for further preparation in Algebra before continuing their Mathematics.

Required of Engineering students found deficient in Algebra; freshman year; second or third term; 4 credits; 5 recitations.

N. Tartar, G. A. Williams

Mth 131. Elementary Analysis. Review of Algebra including radical expressions, quadratic equations, binomial theorem, progressions, and complex numbers. In Analytical Geometry the point, straight line, circle, conic sections, and some of the higher plane curves are studied. Considerable time is given to the plotting of curves in both rectangular and polar coordinates.

Required in Engineering, Forestry, and Mines; freshman year; any term; 4 credits; 4 recitations.

*E. B. Beaty, N. Tartar, H. L. Beard, C. V. Vandewalker,
J. A. van Groos, G. A. Williams*

Mth 132. Elementary Analysis. A continuation of Mth 131. Subjects studied are functions and graphs, formula for differentiation, tangents and normals, maxima and minima, rates, and standard forms of integration.

Required in Engineering, Forestry, and Mines; freshman year; any term; 4 credits; 5 recitations.

*E. B. Beaty, N. Tartar, H. L. Beard, J. A. van Groos,
C. V. Vandewalker, G. A. Williams*

Mth 201, 202, 203. College Mathematics. These courses include portions of plane trigonometry, selected topics in advanced algebra, and a considerable amount of the elementary portions of the calculus, comprising a coherent year's work in college mathematics. Primarily, the aim is preparation for advanced work in applied mathematics, statistics, insurance, biology, and economics. But in both subject-matter and methods of presentation the cultural value of mathematics is by no means neglected.

Prerequisite: $2\frac{1}{2}$ units of high school mathematics or 2 units of high school and one term of college mathematics. Elective; freshman or sophomore year; 3 credits each term; 3 recitations.

F. C. Kent

Mth 251. Differential Calculus. Differentiation; simple applications of the derivative; successive differentiation; maxima and minima; points of inflection; curve tracing; differentials; rates; change of variable; indeterminate form; partial differentiation.

Required in Engineering; sophomore year; any term; 4 credits; 5 recitations.

C. L. Johnson, E. B. Beaty, J. A. van Groos

H. L. Beard, C. V. Vandewalker

Mth 252. Integral Calculus. Standard forms of integrations; integration of trigonometric differentials; constant of integration; the definite integral; integration of rational fractions.

Required in Engineering; sophomore year; any term; 4 credits; 5 recitations.

C. L. Johnson, E. B. Beaty, J. A. van Groos,

H. L. Beard, C. V. Vandewalker

Mth 253. Integral Calculus. A continuation of Mth 252. Integration by rationalization; integration as a process of summation with applications; successive integration; ordinary differential equations.

Required in Engineering; sophomore year; any term; 4 credits; 5 recitations.

C. L. Johnson, E. B. Beaty, J. A. van Groos,

C. V. Vandewalker

Mth 301. Mathematics of Insurance. This course deals with the mathematical calculations involved in actuarial and investment problems.

Prerequisite: Mth 201, 202, 203. Elective; 3 credits; 3 recitations.

F. C. Kent

Mth 302. Statistical Mathematics. An advanced course in mathematical statistics for students majoring in economics, biology, education, or farm management.

Prerequisite: Mth 201, 202, 203, or an equivalent amount of other college mathematics. Elective; 3 credits; 3 recitations.

F. C. Kent

Mth 361. Differential Equations. Study of the solution of ordinary and partial differential equations which the Engineering student is likely to encounter.

Prerequisites: Mth 251, 252, 253. Elective; junior year; first or third term; 4 credits; 4 recitations.

C. L. Johnson, E. B. Beaty

Mth 371. Method of Least Squares.

Prerequisites: Mth 251, 252, 253. Elective; junior year; second term; 3 credits; 3 recitations.

C. L. Johnson, E. B. Beaty

Mth 381. Hyperbolic Functions.

Prerequisites: Mth 251, 252, 253, 361. Elective; junior or senior year; third term; 2 credits; 2 recitations. *C. L. Johnson, E. B. Beaty*

VOCATIONAL COURSES

Mth 21, 22, 23. Algebra. Drill in the fundamental operations; use of parentheses; special rules of multiplication and division; factoring; solutions of equations by factoring; highest common factor; least common multiple; fractions; equations containing fractions; ratio and proportion; graphical representation; linear system; square root; radicals; graphical solution of equations in one unknown.

Required in Mechanic Arts Vocational Curriculum; three terms; 4 (non-collegiate) credits each term; 5 recitations.

Mth 24. Algebra. Quadratic equations; graphs of quadratic equations; system solved by quadratics; theory of exponents; irrational equations; variation and imaginaries.

Required in Engineering of freshmen who enter with but one year of Algebra; any term; 4 (non-collegiate) credits; 5 recitations.
N. Tartar, H. L. Beard, G. A. Williams

Mth 24a. Algebra. This course with Mth 24b is equivalent to Mth 24.

First term; $2\frac{1}{2}$ (non-collegiate) credits; 3 recitations.

G. A. Williams

Mth 24b Algebra. With Mth 24a equivalent to Mth 24.

Second term; $1\frac{1}{2}$ (non-collegiate) credits; 2 recitations.

G. A. Williams

Mth 81. Plane Geometry. The first two books of Plane Geometry.

Required of freshmen entering deficient in first semester of Plane Geometry; any term; 4 (non-collegiate) credits; 5 recitations.

N. Tartar

Mth 81a. Plane Geometry. With Mth 81b equivalent to Mth 81. First or second term; $2\frac{1}{2}$ (non-collegiate) credits; 3 recitations

Mth 81b. Plane Geometry. With Mth 81a equivalent to Mth 81. Second or third term; $1\frac{1}{2}$ (non-collegiate) credits; 2 recitations.

Mth 82. Plane Geometry. A continuation of Mth 81, covering the last three books of Plane Geometry. Many original exercises are studied.

Required of freshmen who enter deficient in second semester of Plane Geometry; second or third term; 4 (non-collegiate) credits; 5 recitations. *N. Tartar*

Mth 82a. **Plane Geometry.** With Mth 82b equivalent to Mth 82 First or second term; $2\frac{1}{2}$ (non-collegiate) credits; 3 recitations. *H. L. Beard*

Mth 82b. **Plane Geometry.** With Mth 82a equivalent to Mth 82. Second or third term; $1\frac{1}{2}$ credits; 2 recitations. *H. L. Beard*

Mth 88. **Solid Geometry.**

Required in Engineering of freshmen who are deficient in second semester of Solid Geometry; first or third term; 3 (non-collegiate) credits; 4 recitations. *C. V. Vandewalker*

Mth 91, 92, 93. **Commercial Arithmetic.** A review of all the essential operations. Stress on short methods; daily drills in rapid calculation; computation of estimates; partnership settlements, etc.

Required in Commerce Vocational Curriculum; first year; three terms; 3 (non-collegiate) credits each term; 5 recitations.

N. Tartar

Mth 94. **Shop Arithmetic.** Thorough drill in the principles of Arithmetic, with special application to shop problems of all sorts.

Required in Mechanic Arts Vocational Curriculum; first or third term; 4 (non-collegiate) credits; 5 recitations.

MODERN LANGUAGES

The department of Modern Languages offers four years of work in French, German, and Spanish.

In harmony with all other courses of the College, the final aim of the instruction is practical use in the various spheres of activity and pursuits of life. While the disciplinary and cultural values of language study are duly recognized and emphasized, the predominant purpose is the development of personal power for social service.

A certain amount of specified work in a language is definitely required in some curricula. In other curricula, German, French, and Spanish may be taken as electives, and when so taken the student receives full credit for any work completed. Elementary classes are formed at the beginning of the first, second, and third terms. Students who have had considerable language work in high schools should consult with the head of the department before registering for a language course.

COURSES

FRENCH

ML 111. Elementary French. Drill in the rudiments of the language; oral and written exercises; idiomatic translations; reading of easy selections.

Elective; any year; any term; 3 credits; 3 recitations.

ML 112. Elementary French. Continuation of ML 111.

Prerequisite. ML 111 or equivalent. Elective; any year; second term; 3 credits; 3 recitations.

ML 113. Elementary French. Continuation of ML 112.

Prerequisite: ML 112 or equivalent. Elective; any year; third term; 3 credits; 3 recitations.

ML 211, 212, 213. Intermediate French. Advanced grammar; irregular verbs; subjunctive mood; reading of narrative, descriptive, and historical prose; oral exercises on texts read.

Prerequisites: ML 111, 112, 113, or equivalent. Elective; any year; three terms; 3 credits each term; 3 recitations.

ML 311, 312, 313. Advanced French. Reading of scientific, technical, and miscellaneous texts with corresponding composition and conversation.

Prerequisites: ML 211, 212, 213, or equivalent. Elective; any year; three terms; 3 credits each term; 3 recitations.

ML 411, 412, 413. Advanced French. Planned especially for prospective teachers of French and others desiring to acquire a comprehensive knowledge of the language. Advanced composition; reading of advanced texts of various classes of literature; oral and written reports.

Prerequisites: ML 311, 312, 313, or equivalent. Elective; any year; three terms; 3 credits each term; 3 recitations.

SPANISH

ML 121. Elementary Spanish. Essentials of vocabulary and grammar; auxiliaries, regular and radical changing verbs, and some of the more common irregular forms; reading of easy prose selections; idiomatic translations; much oral drill and conversation.

Elective; any year; any term; 3 credits; 3 recitations.

ML 122. Elementary Spanish. Continuation of ML 121.

Prerequisite: ML 121 or equivalent. Elective; any year; second term; 3 credits; 3 recitations.

ML 123. Elementary Spanish. A continuation of ML 122.

Prerequisite: ML 122 or equivalent. Elective; any year; third term; 3 credits; 3 recitations.

ML 221, 222, 223. Intermediate Spanish. Grammar continued; irregular verbs; subjunctive mode in all its uses; idiomatic phrases; social and epistolary forms; reading of suitable texts; oral and written exercises.

Prerequisites: ML 121, 122, 123, or equivalent. Elective; any year; three terms; 3 credits each term; 3 recitations.

ML 321, 322, 323. Advanced Spanish. Reading of commercial texts; commercial correspondence; descriptive and technical prose; much conversation.

Prerequisites: ML 221, 222, 223, or equivalent. Elective; any year; three terms; 3 credits each term; 3 recitations.

ML 421, 422, 423. Advanced Spanish. Especially for prospective teachers and others desiring a comprehensive knowledge of Spanish. Advanced composition; reading of advanced texts of the various classes of literature; oral and written reports.

Prerequisites: ML 321, 322, 323, or equivalent. Elective; any year; three terms; 3 credits each term; 3 recitations.

GERMAN

ML 131. Elementary German. Rudiments of the language; oral and written exercises; translation of easy selections.

Elective; any term; 3 credits; 3 recitations.

ML 132. Elementary German. Continuation of ML 131.

Prerequisite: ML 131 or equivalent. Elective; second term; 3 credits; 3 recitations.

ML 133. Elementary German. Continuation of ML 132.

Prerequisite: ML 132 or equivalent. Elective; third term; 3 credits; 3 recitations.

ML 231, 232, 233. Intermediate German.

Prerequisite: ML 131, 132, 133, or equivalent. Elective; three terms; 3 credits each term; 3 recitations.

ML 331, 332, 333. Advanced German.

Prerequisites: ML 131, 132, 133, 231, 232, 233, or equivalent. Elective; three terms; 3 credits each term; 3 recitations.

ML 431, 432, 433. Advanced German.

Prerequisites: ML 331, 332, 333, or equivalent. Elective; three terms; 3 credits each term; 3 recitations.

PHYSICS

The department seeks to adapt each course to the needs of those enrolled in it. To attain this end the work in General Physics has been subdivided into several courses that suit the needs of the various technical schools of the College. These courses all cover the customary range of subjects: mechanics, sound, heat, light, electricity and magnetism, and all naturally emphasize the same fundamental principles; they differ in the relative amounts of time devoted to the several subjects and in the practical applications that are studied.

The advanced courses are built up on the same general scheme as the general courses; each emphasizes the fundamental principles in its field and puts stress upon practical applications both in lecture and in laboratory.

A course in astronomy is taught by the department because it was best fitted to undertake this work when demand arose for a general course in this subject.

Equipment. The department has a good supply of lecture demonstration apparatus and of general laboratory apparatus that enables the students to verify quantitatively the most important laws, to determine accurately some of the physical properties of substances, and also to obtain practice in the use and care of the common measuring instruments. For advanced work, the department is well equipped in electrical measurements, photometry, photography, and wireless telegraphy and telephony.

In the general library are many recent Physics texts and allied works, as well as a number of Physics periodicals, which are available to all.

COURSES

Ph 111, 112, 113. **Engineering Physics.** A course in general physics adapted to students in Engineering. Trigonometry must precede or accompany this course.

Required in Engineering (freshman year) and in Forestry (sophomore year); three terms; 3 credits each term; 2 lectures; 2 recitations; 1 two-hour laboratory period. Fee \$2.00 each term. Text: Anderson, *Physics for Technical Students*. *W. Weniger and others*

Ph 121, 122, 123. **General Physics.** A course adapted to the needs of students in Pharmacy and especially for those preparing to study medicine.

Prerequisite: Geometry. Required in Pharmacy; freshman year; three terms; 4 credits each term; 2 lectures; 3 recitations; 1 two-hour laboratory period. Fee \$2.00 each term. *A. W. Marker*

Ph 201, 202. **General Physics.** A brief course in General Physics.

Prerequisite: Geometry. Optional in Agriculture and Commerce; sophomore year; first and second terms; 3 credits each term; 2 lectures; 2 recitations; 1 two-hour laboratory period. Fee \$2.00 each term. Text: Anderson, Physics. *A. W. Marker*

Ph 210. **Advanced Engineering Physics.** An advanced course in heat, light, and electricity.

Prerequisite: Ph 111, 112, 113. Required in Chemical Engineering (sophomore year); elective to advanced students; third term; 3 credits; 2 lectures; 2 recitations; 1 two-hour laboratory period. Fee \$2.00. *W. B. Anderson*

Ph 221. **Mining Physics.** A course in general physics adapted to students who are taking calculus.

Prerequisite: Trigonometry; calculus must precede or accompany this course. Required in Mines; sophomore year; first term; 3 credits; 2 lectures; 2 recitations; 1 two-hour laboratory period. Fee \$2.00. *R. W. Uphoff*

Ph 222. **Mining Physics.** Continuation of Ph 221.

Prerequisite: Ph 221. Required in Mines; sophomore year; second term; 5 credits; 2 lectures; 3 recitations; 2 two-hour laboratory periods. Fee \$4.00. *R. W. Uphoff*

Ph 223. **Mining Physics.** Continuation of Ph 222.

Prerequisite: Ph 222. Required in Mines; sophomore year; third term; 3 credits; 2 lectures; 2 recitations; 1 two-hour laboratory period. Fee \$2.00. *R. W. Uphoff*

Ph 290. **Descriptive Astronomy.** A brief elementary course covering the most important points relating to the heavenly bodies. Descriptive rather than mathematical in character.

Elective; third term; 2 credits; 2 recitations or equivalent in lectures and observational work, depending upon weather conditions. *W. Weniger*

Ph 292, 293. **General Physics.** A brief descriptive course with such applications as are of greatest interest to students in Home Economics.

Required in Home Economics; sophomore year; second and third terms; $2\frac{1}{2}$ credits each term; 1 lecture; 2 recitations; 1 two-hour laboratory period. Fee \$2.00 each term. *Maude T. Parr*

Ph 351. **Heat and Light.** An advanced course, taking up the phenomena of heat and light in detail, including recent discoveries.

Elective; first term; credit to depend on work done. Fee \$2.00.

Ph 353. **Wireless Telegraphy.** A study of the discoveries leading up to the practical application of electric waves to telegraphy;

theory of modern radio transmission and receiving systems, including the wireless telephone. Laboratory measurements of inductance, capacity, and wave lengths; assembling and tuning complete transmitting and receiving sets; code practice. Laboratory sections limited to six students each.

Prerequisite: Ph 113. Elective; first or third term; 3 credits; 2 lectures; 2 recitations; 1 two-hour laboratory period. Fee \$2.00.

J. Jordan

Ph 361. Introductory Photography. A course designed to acquaint the student with photographic processes. Emphasis is placed upon the theoretical as well as the practical side of the subject. Students are taught the proper use of the hand camera in negative making, certain positive processes, enlarging, lantern slide making, the preparation of different stock solutions, etc.

Prerequisites: College Physics and Chemistry. Elective; first and third term; 3 credits; 1 lecture; 1 recitation; 4 hours of practical work. Fee \$5.00.

R. W. Uphoff

Ph 362. Commercial Photography. A continuation of Ph 361 with emphasis on commercial work. The work includes such topics as copying, flashlights, interiors, photo-microscopy, the air-brush, blocking negatives, the uses of contrast filters, making of multiple plate panoramas, photographing furniture and various other commercial articles, coloring, etc.

Prerequisite: Ph 361. Elective; second term; 3 credits; 1 lecture; 1 class discussion; 4 hours of practical work. Fee \$5.00.

R. W. Uphoff

Ph 363. Pictorial Photography. A continuation of Ph 361 with emphasis on pictorial work. Color photography, soft focus landscape work, and special work in enlarging. A study is made of the various pictorial mediums such as carbon, platinum, bromoil, etc.

Prerequisite: Ph 361. Elective; third term; 3 credits; 1 lecture; 1 class discussion; 4 hours of practical work. Fee \$5.00.

R. W. Uphoff

Ph 452. Advanced Wireless Telegraphy. An intensive study of the thermionic vacuum tube and related phenomena.

Prerequisites: Ph 351 and calculus. Elective; second term; 3 credits; 2 recitations; 1 two-hour laboratory period. Fee \$2.00.

J. Jordan

Ph 462. Advanced Photography. Special work in photography for students who have taken all the courses in this subject and desire additional training and assistance. Suggested topics include

retouching, use of the air-brush, large prints, home portraiture, illumination, photomicrography.

Prerequisite: Ph 362 or 363. Three credits; second term; 1 lecture; 1 class discussion; 4 hours practical work. Fee \$6.00.

R. W. Uphoff

Ph 472. The Physics of Light Production. A course on radiation and the development of modern illuminants.

Prerequisites: Ph 111, 112, 113 or their equivalents. Elective; second term; 3 credits; 2 lectures; 2 recitations; 1 two-hour laboratory period. Fee \$2.00.

W. Weniger

Ph 473. Photometry. A course in the theory and use of both precision and portable photometers, including the spectrophotometer.

Prerequisites: Ph 111, 112, 113 or their equivalents. Elective; third term; 3 credits; 1 lecture; 1 recitation; 2 two-hour laboratory periods. Fee \$4.00.

W. Weniger

Ph 481. Recent Developments in Electricity. A course embodying some of the recent electrical discoveries that are of interest to the engineer, but that are not discussed in any of the courses in Electrical Engineering.

Elective; first term; 3 credits; 2 lectures; 2 recitations; 1 two-hour laboratory period. Fee \$2.00.

W. Weniger

PUBLIC SPEAKING AND DRAMATICS

The purpose of this department is to aid students in the development of clear, original thinking and to give training in the correlation and organization of knowledge gained through study and experience. Much drill and criticism are given on organization of material, on platform work, and on the principles that underlie effective reading and speaking. The training goes far in helping to overcome self-consciousness and in aiding to build up a strong personal address.

The department offers not only courses that are designed to develop an appreciation of the best in reading and speaking, but also courses that are planned to suit the practical needs of the student.

While the work is adapted to the student who must get a maximum of platform experience in a few months, the courses are so correlated that one may secure progressive training covering a period of three years if he so desires.

Many plays, intramural and intercollegiate debates, and oratorical contests take place on the campus each year, and the department offers courses and much individual attention to students who wish to prepare for such work.

COURSES

Psp 254. **Practical Public Speaking, I.** Practice in the development and presentation of speeches on topics of special interest to the students; voice training; some study of gesture, bearing, and elements of effectiveness in presentation; criticism on organization of material.

Elective; sophomore year; any term; 3 credits; 3 recitations.
Text: Winans, Public Speaking. *C. B. Mitchell*

PSp 255. **Practical Public Speaking, II.** Practice in the construction and presentation of forms of addresses for special occasions; continuation of voice training and study of gesture and elements of effectiveness in delivery; criticism on organization and presentation. Some collateral reading.

Prerequisite: PSp 254. Elective; sophomore year; second or third term; 3 credits; 3 recitations. Text: Houghton, The Elements of Public Speaking. *C. B. Mitchell*

PSp 256. **Argumentation.** Practical work in brief-drawing, collection and handling of evidence, and construction of the argumentative speech. Each student constructs several briefs and delivers several speeches. Criticism on presentation and construction.

Prerequisites: PSp 254. Elective; first or third term; 3 credits; 3 recitations. Text: Foster, Argumentation and Debating. *C. B. Mitchell, G. R. Varney*

PSp 257. **Advanced Public Speaking.** Construction and presentation of the extended address. Each student prepares and presents several long speeches. The psychology of public speaking is considered. Criticism on delivery and organization of material. Assigned readings. Students should confer with the instructor before electing this course. Limited to ten students.

Prerequisites: PSp 254, 255. Elective; third term; 3 credits; 3 recitations.

PSp 258. **Parliamentary Drill.** This course covers the principles of parliamentary usage and gives each student an opportunity to serve as chairman of several meetings during the term. Much practice will be afforded in the presentation of motions and in impromptu speaking under the supervision of a critic. Assigned readings.

Elective; first term; 2 credits; 2 recitations. Text: Howe, Handbook of Parliamentary Usage. *C. B. Mitchell, G. R. Varney*

PSp 264. **Expression.** Literary interpretation, including analysis, memorizing, and rendering of selected masterpieces of prose and poetry; correction of erroneous habits of speech, of artificiality, affectation, and self-consciousness.

Elective; first or second term; 2 credits; 2 recitations.

Norma Olson

PSp 265. **Expression.** Continuation of PSp 264.

Prerequisite: PSp 264. Elective in Home Economics; second and third terms; 2 credits; 2 recitations.

Norma Olson

PSp 351. **Oratory.** Intended as special preparation for those who wish to enter oratorical work. Lecture on the theory of oratory; preparation of original orations; classroom exercises; personal conferences and criticism.

Prerequisite: PSp 254. Elective; first term; 2 credits; 2 recitations. Text: Shurter, *The Rhetoric of Oratory.*

G. R. Varney

PSp 357. **Debating.** Application of the principles of argumentation to debating; analysis and brief-drawing. Each student participates in several debates. Criticism on delivery and on the selection and handling of evidence in both constructive argument and refutation. Assigned readings.

Prerequisites: PSp 254, 256. Elective; first or second term; 3 credits; 3 recitations.

PSp 464. **Dramatic Interpretation.** Advanced literary interpretation; training in delivery of masterpieces of prose and poetry; interpretative study of Shakespeare and modern drama; presentation of scenes from plays; bodily expression; impersonation.

Prerequisites: PSp 264, 265. Elective; first term; 2 credits; 2 recitations.

Norma Olson

PSp 465. **Community Drama.** Designed to meet the needs of community leaders. Pageantry, pantomime, tableaux, and shadow pictures; instruction in staging amateur productions. It is suggested that students take PSp 264, 265, and 464 before electing this course.

Elective; second or third term; 3 credits; 3 recitations.

C. B. Mitchell, Norma Olson

PSp 467, 468. **Story Telling.** Study of children's literature; analysis and reproduction of short stories suitable for the nursery, the kindergarten, and the primary grades.

Elective in Home Economics; second and third terms; 2 credits each term; 2 recitations.

Norma Olson

ZOOLOGY AND PHYSIOLOGY

The courses in the department are adapted to the particular needs of students in Agriculture, Pharmacy, Home Economics, Physical Education, and Forestry. Opportunity is offered for advanced study or research in the various branches of Zoology and Physiology. The

prescribed work for students in Pharmacy satisfies the pre-medical requirements for entrance into medical school.

Equipment. The laboratories, museum, and offices of the department are situated on the third floor of Agricultural Hall. These are equipped with microscopes, charts, specimens, and other necessary materials for the efficient conduct of the work in Zoology and Physiology.

COURSES

ZP 101, 102, 103. **General Zoology.** The fundamental problems of zoology. During the third term, particular attention is paid to vertebrate structures.

Required in Pharmacy, elective to others; freshman year; three terms; 3 credits each term; 2 lectures; 1 three-hour laboratory period. Fee \$2.00 each term.

N. Fasten and assistants

ZP 130. **Principles of Economic Zoology.** The distribution, habits, and functions of animals with reference to their economic importance.

Required in Agriculture; freshman year; any term; 5 credits; 3 lectures; 2 three-hour laboratory periods. Fee \$3.00.

H. M. Wight and assistants

ZP 211, 212, 213. **Mammalian Anatomy.** Study of mammalian organization as a basis for the understanding of the human body. The laboratory work consists of some anatomy, histology, and embryology of a typical mammal.

Prerequisites: ZP 101, 102, 103, or equivalents. Required in Pharmacy; elective to others; sophomore year; three terms; 3 credits each term; 2 lectures; 1 three-hour laboratory period. Fee \$2.00 each term.

ZP 223. **Economic Ornithology.** A study of the birds of Oregon with emphasis on their importance as destroyers of organisms which are injurious to grains and fruits.

Elective; third term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$1.50.

Florence Hague

ZP 233. **Animal Ecology.** The relation of animals to their environment. The habits, associations, and economic importance of the various groups of animals.

Prerequisite: ZP 130 or equivalent. Elective; sophomore or junior year; third term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$1.50.

H. M. Wight

ZP 300. **Histology.** A study of the various tissues of animals with emphasis on mammalian structures. Training in micro-tech-

nique, killing, fixing, imbedding, sectioning, and mounting of tissues. Given alternate years, alternating with ZP 310. Not given 1922-23.

Prerequisite: ZP 103 or equivalent. Elective; junior or senior year; third term; 4 credits; 2 lectures; 2 three-hour laboratory periods. Fee \$3.00. *Florence Hague*

ZP 310. **Embryology.** The development of animals, with special reference to the frog, chick, and pig. Given alternate years, alternating with ZP 300. Given 1922-23.

Prerequisite: ZP 103, or equivalent. Elective; junior or senior year; third term; 4 credits; 2 lectures; 2 three-hour laboratory periods. Fee \$3.00. *Florence Hague*

ZP 321. **Elements of Physiology.** The object of this course is to give the Home Economics student knowledge of life processes and anatomical relationships which are necessary in maintaining the highest efficiency of the human body.

Required in Home Economics; junior year; first or second term; 5 credits; 3 lectures; 2 three-hour laboratory periods. Fee \$3.00. *Florence Hague*

ZP 331. **Taxidermy and Zoological Collecting.** Laboratory and field course in the methods involved in the preparation of skins and the preservation of museum specimens; study and practice in the methods involved in field survey work.

Prerequisite: ZP 130 or equivalent. Elective; first term; credits to be arranged. Fee \$3.00. *H. M. Wight*

ZP 342. **Fish and Game Propagation.** Lecture, laboratory and field course dealing with the propagation of fish and food animals of the field, forest, or farm. Special attention to the question of the utilization of farm streams and ponds for the rearing of fish and other valuable water-dwelling animals.

Prerequisite: ZP 130 or equivalent. Elective; junior or senior year; second term; 3 credits; hours to be arranged. Fee \$1.50.

H. M. Wight

ZP 351. **Genetics.** A lecture course dealing with the fundamental principles of variation and heredity as applied to animal and plant breeding.

Prerequisite: One term of Botany or Zoology, or equivalent. Required in Agriculture; elective to others; junior or senior year; first term; 3 credits; 3 lectures; 1 recitation. Fee \$0.50. *N. Fasten*

ZP 352. **Evolution and Eugenics.** A lecture course dealing with the various ideas concerning the origin, development, and relation of organisms, with emphasis on human welfare.

Prerequisite: One term of Botany or Zoology, or equivalent. Elective; junior or senior year; second term; 3 credits; 3 lectures; 1 recitation. Fee \$0.50. *N. Fasten*

ZP 361. **Animal Parasites.** A study of the role played by the lower animals in the production of disease.

Prerequisites: ZP 102 or 130, or equivalent. Elective; junior or senior year; third term; 3 credits; hours to be arranged. Fee \$2.00. *N. Fasten*

ZP 681, 682, 683. **Zoological Seminar.** Current problems in Zoology. The instructional staff and advanced students in the department attend and contribute original articles or abstracts of papers published in the current biological journals.

Required in Zoology; senior or graduate year; three terms; one credit each term; one hour a week.

ZP 691, 692, 693. **Advanced Study and Thesis.** Opportunity is given students who desire to specialize in Zoology or Physiology to take up work not given in the regular courses, or to undertake the investigation of special problems under the direction of one of the instructors in the department. Either major or minor work for the master's degree may be carried in this department.

Elective for senior or graduate students; any term; credits, prerequisites, etc., to be arranged by the instructor in charge, subject to the approval of the head of the department.

School of Commerce

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.

JOHN ANDREW BEXELL, A.M., Dean of the School of Commerce; Professor of Business Administration.

HELEN MOORE, B.Sc., Secretary of the School of Commerce.

Business Administration

JOHN ANDREW BEXELL, A.M., Professor of Business Administration.
ALFRED C. SCHMITT, Ph.D., Assistant Professor of Business Administration.

FRANK LESLIE ROBINSON, Instructor in Accounting.

LOCHE HARDEMAN MARDIS, B.Sc., Instructor in Accounting.

LEE CLEVELAND BALL, Instructor in Accounting.

Economics and Sociology

HECTOR MACPHERSON, Ph.D., Professor of Economics and Sociology; Director of the Bureau of Organization and Markets.

NEWEL HOWLAND COMISH, M.S., Professor of Economics and Sociology.

WILLIAM HENRY DREESEN, Ph.D., Assistant Professor of Economics and Sociology.

EDWARD BECKER MITTELMAN, Ph.D., Instructor in Economics and Sociology.

JAMES FRANKLIN PAGE, M.A., Instructor in Economics and Sociology.

MERCY JANE GAIN, B.Sc., Assistant in Economics and Sociology.

Office Training

HERBERT TOWNSEND VANCE, Professor of Office Training and Business Education.

ETHA MABEL MAGINNIS, Assistant Professor of Office Training.

LILLIAN BURNS, B.Sc., Instructor in Office Training.

BERTHA ALICE WHILLOCK, B.Sc., Instructor in Office Training.

MINNIE CLARE KOOPMAN, B.Sc., Instructor in Office Training.

MINNIE DEMOTTE FRICK, Instructor in Office Training.

ALTHA OPAL COOPER, B.Sc., Instructor in Office Training.

ELYNORE DOROTHEA SWEENEY, B.Sc., Instructor in Office Training.

Political Science

ULYSSES GRANT DUBACH, Ph.D., Professor of Political Science.

FRANK ABBOTT MAGRUDER, Ph.D., Associate Professor of Political Science.

ROY RENO HEWITT, Ph.B., M.A., LL.B., Assistant Professor of Political Science.

*Basic Arts and Sciences**

M. ELLWOOD SMITH, Ph.D., Dean of the School of Basic Arts and Sciences; Director of the Summer Session.

FREDERICK BERCHTOLD, A.M., Professor of English Language and Literature.

JOHN B. HORNER, A.M., Litt.D., Professor of History.

LOUIS BACH, M.A., Professor of Modern Languages.

NATHAN FASTEN, Ph.D., Professor of Zoology and Physiology.

CHARLES BUREN MITCHELL, A.M., Professor of Public Speaking.

FREDERICK CHARLES KENT, A.B., Associate Professor of Mathematics.

WILLIAM HENRY ELLISON, Ph.D., Associate Professor of History.

NICHOLAS TARTAR, B.Sc., Assistant Professor of Mathematics.

SIGURD HARLAN PETERSON, B.A., Assistant Professor of English.

ALBERT WASHINGTON MARKER, A.M., Instructor in Physics.

CARL NAETHER, B.A., Instructor in English.

HARRY HOWARD TUCKER, A.B., Instructor in English.

*Other Schools and Departments **

GRANT ADELBERT COVELL, Dean of the School of Engineering and Mechanic Arts; Professor of Mechanical Engineering.

MARY ANNETTE ROLFE, M.A., Dean of Women.

GEORGE WILLIAMS MOSES, Colonel, Cavalry, United States Army, Professor of Military Science and Tactics; Commandant of Cadets.

HENRY DESBOROUGH SCUDDER, B.Sc., Professor of Farm Management.

GEORGE ROBERT HYSLOP, B.Sc., Professor of Farm Crops.

WILBUR LOUIS POWERS, M.S., Professor of Soils.

JESSE FRANKLIN BRUMBAUGH, A.M., Litt.D., Professor of Psychology.

FRANCIS LAWRENCE SNOW, Professor of Industrial Journalism.

ALMA GRACE JOHNSON, B.Sc., Professor of Household Administration.

WALTER SHELDON BROWN, A.B., M.S., Professor of Horticulture.

EDNA AGNES COCKS, A.M., Professor of Physical Education for Women.

RICHARD BURR RUTHERFORD, A.B., Professor of Physical Education for Men.

LUCY MAY LEWIS, A.B., B.L.S., Librarian.

CHARLES JARVIS MCINTOSH, B.S.D., B.Sc., Assistant Professor of Industrial Journalism.

CHARLES CURTIS RUTH, M.S., Assistant Professor of Farm Crops.

BENJAMIN WILLIAM RODENWOLD, B.Sc., Assistant Professor of Animal Husbandry.

RAY BOALS, B.Sc., Assistant Professor of Mechanical Engineering.

MORRIS WENK, A.B., E.E., Assistant Professor of Mechanical Engineering.

* Here are listed members of other faculties offering courses open to students in Commerce.

LEO PARTLOW, Captain, Field Artillery, United States Army, Assistant Professor of Military Science and Tactics.
MARTIN LOUIS GRANNING, Instructor in Auto Mechanics.
MARY VAN KIRK, Instructor in Household Art.
EMMA SKINNER WELD, Ph.B., Instructor in Household Art.
ALFRED WEAVER OLIVER, B.Sc., Instructor in Animal Husbandry.
SARA WATT PRENTISS, B.Sc., Instructor in Household Science.
WILLIAM WATERS JOHNSTON, B.Sc., Field Agent in Soils.
JOHN RICHARD NEVIUS, B.Sc., Instructor in Farm Crops.
HOWARD NOTSON COLMAN, A.B., B.Sc., Instructor in Dairy Husbandry.

Special Lecturers

WILLIAM H. ANDERSON, C.P.A., Member Whitfield, Whitcomb, & Co.
A course of lectures in Accounting and Auditing.
JOHN M. DOLPH, Advertising Specialist. A course of lectures in the Psychology of Advertising.
W. S. KIRKPATRICK, Advertising Sales Expert. A course of lectures in Advertising and Selling.
R. T. JACOB, Tax Expert. A course of lectures in Federal Income Tax.
About twenty special lecturers, chiefly prominent business and professional men throughout the State, deliver addresses during the year. The lectures, which are usually held under the auspices of the O. A. C. Commercial Club, are open to all students of the institution.

Curricula. The School of Commerce offers two distinct courses of study; namely, (1) a four-year curriculum leading to the degree of Bachelor of Science in Commerce; (2) a two-year vocational curriculum leading to a Certificate. The practical side of every subject is emphasized, the constant aim being to train the student for service and efficiency.

Admission. Detailed statements of entrance requirements, routine of registration, etc., are given in the special bulletin on "General Information," which is furnished on application. Requirements for admission to the curricula of the School of Commerce are as follows:

Degree curriculum: Applicants must be at least sixteen years of age and must have completed 15 units of work in a secondary school recognized as standard, these units to include (a) at least 3 units of English and 1 unit each of Elementary Algebra and Plane Geometry; (b) 2 additional units to be selected without restriction from among the following subjects: English, Mathematics, Foreign Languages, Laboratory Sciences, and History (including Civics); and (c) 8 units selected from subjects credited toward graduation by standard high schools of Oregon.

Graduate curriculum (in Agricultural Economics and Rural Sociology): Applicants must be holders of the baccalaureate degree from the Oregon Agricultural College or other college of equal rank.

It is strongly recommended that students wishing to pursue this work follow the Agriculture Curriculum during their first two years of undergraduate study, and elect a minor in Agricultural Economics and Rural Sociology during their junior and senior years. Students taking the regular Commerce Curriculum, who contemplate studying for the Master's degree in Agricultural Economics and Rural Sociology, should begin in their sophomore year to take certain courses in Agriculture chosen in consultation with the deans of the schools of Agriculture and Commerce.

Vocational curriculum: Applicants must have completed a common school course and be at least 18 years of age. Applicants over 21 years of age who have not completed a common school course may be admitted in individual cases on approval of the Dean.

The Degree Curriculum. In the degree curriculum lower classmen may emphasize accounting, salesmanship, or secretarial studies, the latter including stenography and office practice. In the junior year, the student may further specialize in one of the following: (1) Business Administration, (2) Economics and Sociology, (3) Political Science, (4) Secretarial Studies, or (5) Markets and Salesmanship. Instead of the above options, a liberal range of general electives is offered, so that in the junior or senior year, the men may elect courses in Agriculture, Forestry, or Industrial Arts, while the women may elect courses in Home Economics.

Graduate Curriculum in Agricultural Economics and Rural Sociology. Course sequences will be outlined leading to the degree of Master of Science in Agricultural Economics and Rural Sociology.

The aim is to make the graduate work in this field fit students for positions as county agriculturists, positions in the United States Department of Agriculture, especially in the Office of Markets and Rural Organization, teachers in colleges and rural high schools, and for rural leadership in general. Students are also prepared for civil service examinations in this general field.

The Vocational Curriculum. This curriculum has been arranged primarily for the benefit of persons who have been unable to finish high school. The only entrance requirements are that the applicant must have had an eighth grade education, or its equivalent, and must be at least eighteen years of age. The student may emphasize book-keeping and business methods, or stenography and typewriting; or he may have an opportunity to take both groups of courses.

Facilities. The new Commerce Building, a handsome, commodious structure specially designed for executive offices and for depart-

ments related to administration and commerce, offers superior facilities for instruction and administration. The most approved methods of heating, lighting, ventilation, and sanitation are employed. The building is equipped with the most modern office appliances, including calculating, manifolded, and typing machines.

Departments. For administrative purposes, the School of Commerce is organized into four distinct departments: (1) Business Administration, (2) Economics and Sociology, (3) Office Training and Stenography, and (4) Political Science.

Requirements for Graduation in the School of Commerce. For the bachelor's degree in the School of Commerce, a total of 207 college credits must be completed by men and 192 credits by women. It is expected that the suggested schedule as listed elsewhere for this School will be closely followed. Excepting those who major in Marketing of Agricultural Products (as outlined on pp. 194-195), students must complete before graduation credits as indicated in the following table:

| | Men | Women |
|---|------------|------------|
| Business Administration and Office Training | 39 | 39 |
| Economics and Sociology | 32 | 32 |
| Political Science | 28 | 28 |
| General English or Modern Languages | 9 | 9 |
| Business English | 9 | 9 |
| Mathematics | 9 | 9 |
| Science | 9 | 9 |
| History | 9 | 9 |
| Library Practice | 1 | 1 |
| Gymnasium | 3 | 9 |
| Military Science and Tactics | 12 | 0 |
| Hygiene | 0 | 1 |
| Social Ethics | 0 | 1 |
| Electives | 47 | 36 |
| Total | 207 | 192 |

The nine required credits in Physical Science must be selected from the following courses: Bac 204, 205; Bot 101, 102, 202, 203; Ch 101, 102, 103, 111, 112, 113; Ent 303; G 301, 301a, 301b, 301c, 302; Ph 111, 112, 113, 121, 122, 123, 201, 202, 292, 293; ZP 101, 102, 103, 351, 352. Not less than six of these credits must be taken in sciences requiring laboratory work. All Science requirements must be completed by the end of the junior year.

DEGREE CURRICULUM IN COMMERCE

BUSINESS ADMINISTRATION

Freshman Year

| | 1st | 2d | 3d |
|---|------------------------|------------------------|------------------------|
| ①②Introduction to Accounting (BA 101) | 3 | --- | --- |
| ②Principles of Accounting (BA 102) | --- | 3 | --- |
| ②Accounting Practice (BA 103) | --- | --- | 3 |
| Counting Room Mathematics (Mth 101) | 3 | --- | --- |
| Mathematics of Investments (Mth 102) | --- | 3 | --- |
| Elements of Statistical Methods (Mth 103) | --- | --- | 3 |
| Elementary, Intermediate, Advanced Typing (OT 111, 112, 113) | 2 | 2 | 2 |
| English Composition (Eng 101) | 3 | --- | --- |
| Business Correspondence (Eng 105) | --- | 3 | --- |
| Advanced Business English (Eng 106) | --- | --- | 3 |
| Commercial Geography (ES 101) | 4 | --- | --- |
| ③Economic History of Europe (ES 111) | --- | 4 | --- |
| ⑤Recent History of the United States (Hst 122) | --- | --- | 3 |
| Library Practice (Lib 100) | --- | --- | 1 |
| Social Ethics (PEW 121), Hygiene (PEW 122) (Women) (1) | (1) | (1) | --- |
| Gymnasium (Men) | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Gymnasium (Women) | (1) | (1) | (1) |
| Military Science and Tactics | 2 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Sophomore Year

| | | | |
|--|------------------------|------------------------|------------------------|
| Corporation Accounting (BA 201) | 3 | --- | --- |
| Industrial Accounting (BA 202) | --- | 3 | --- |
| Cost Accounting (BA 203) | --- | --- | 3 |
| Office Methods and Appliances (OT 251, 252, 253) | 2 | 2 | 2 |
| Advanced Business Law (PS 201, 202) | 4 | 4 | --- |
| Principles of Economics (ES 203) | --- | --- | 4 |
| ④Economic History of United States (ES 201) | 3 | --- | --- |
| ④European History I (Hst 212) | --- | 3 | --- |
| ④European History II (Hst 213) | --- | --- | 3 |
| English Literature or Modern Language | 3 | --- | --- |
| American Literature or Modern Language | --- | 3 | --- |
| Public Speaking or Modern Language | --- | --- | 3 |
| Gymnasium (Women) | (1) | (1) | (1) |
| Gymnasium (Men) | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 2 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

①Students who have had at least one year of bookkeeping should register for BA 102 the first term and BA 103 the second term.

②Students who intend to specialize in Markets and Salesmanship may substitute BA 141, 142, 143 for Accounting.

③Option in Home Economics: HAD 141, HA 118, HS 101.

④Optional with Science in the sophomore year, but nine credits in History are required for graduation.

Junior Year*

| | 1st | Term 2d | 3d |
|--|------|------------|------|
| Business Organization (BA 331)..... | 3 | .... | .... |
| Business Management (BA 332)..... | .... | 3 | .... |
| Purchasing and Selling (BA 343)..... | .... | .... | 3 |
| Money and Banking (ES 311)..... | 4 | .... | .... |
| General Sociology (ES 305)..... | .... | 4 | .... |
| National Government (PS 301)..... | 3 | .... | .... |
| State and Local Government (PS 302)..... | .... | 3 | .... |
| Municipal Government (PS 303)..... | .... | .... | 3 |
| ①Electives | 7 | 7 | 11 |
| | 17 | 17 | 17 |

Senior Year*

| | | | |
|---------------------------------------|------|------|------|
| Public Finance (ES 401)..... | 4 | .... | .... |
| Markets and Marketing (ES 402)..... | .... | 4 | .... |
| Transportation (ES 403)..... | .... | .... | 4 |
| Comparative Governments (PS 402)..... | 3 | .... | .... |
| International Relations (PS 401)..... | .... | .... | 4 |
| ①Electives | 10 | 13 | 9 |
| | 17 | 17 | 17 |

STENOGRAPHY AND OFFICE TRAINING

Freshman Year

| | | | |
|--|------|------|------|
| Elementary Stenography (OT 101, 102, 103)..... | 3 | 3 | 3 |
| Elementary Typing (OT 111, 112, 113)..... | 2 | 2 | 2 |
| ②③Introduction to Accounting (BA 101) | 3 | .... | .... |
| ③Principles of Accounting (BA 102) ..... | .... | 3 | .... |
| ⑤Accounting Practice (BA 103) ..... | .... | .... | 3 |
| English Composition (Eng 101)..... | 3 | .... | .... |
| ④Advanced Business English (Eng 106) ..... | .... | .... | 3 |
| ④Economic History of Europe (ES 111) | 4 | .... | .... |
| ④Recent History of the United States (Hst 122) ..... | .... | 3 | .... |
| Commercial Geography (ES 101)..... | .... | .... | 4 |
| Library Practice (Lib 100)..... | .... | 1 | .... |
| Social Ethics (PEw 121), Hygiene (PEw 122) (Women) (1) | (1) | (1) | .... |
| Gymnasium (Men) | ½ | ½ | ½ |
| Gymnasium (Women) | (1) | (1) | (1) |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | 17½ | 17½ | 17½ |

*The junior and senior schedules may be modified to suit the individual student, provided that the requirements for graduation are met as stated on page 191.

①See pages 195-199.

②Students who have had at least one year of bookkeeping, should register for BA 102 the first term, and BA 103 the second term.

③Students who intend to specialize in Markets and Salesmanship may substitute BA 141, 142, 143 for Accounting.

④Option in Home Economics: HAd 141, HA 118, HS 101.

Sophomore Year

| | 1st | Term 2d | 3d |
|--|------------------------|------------------------|------------------------|
| Advanced Stenography and Typing (OT 201, 202)..... | 5 | 5 | .... |
| Office Training for Stenographers (OT 203)..... | .... | .... | 5 |
| Advanced Business Law (PS 201, 202)..... | 4 | 4 | .... |
| Principles of Economics (ES 203)..... | .... | .... | 4 |
| ①Economic History of United States (ES 201) | 3 | .... | .... |
| ①European History I (Hst 212) ..... | .... | 3 | .... |
| ①European History II (Hst 213) ..... | .... | .... | 3 |
| English Literature or Modern Language..... | 3 | .... | .... |
| American Literature or Modern Language..... | .... | 3 | .... |
| Public Speaking or Modern Language..... | .... | .... | 3 |
| Gymnasium (Men) | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Gymnasium (Women) | (1) | (1) | (1) |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Junior and Senior Years

See page 193.

MARKETING OF AGRICULTURAL PRODUCTS

Freshman and Sophomore Years

Major work in Marketing is open to students who have completed the freshman and sophomore years in either Commerce or Agriculture.

Junior Year

| | | | |
|--|----------|----------|----------|
| ②Agricultural Economics (ES 362) | 3 | .... | .... |
| Farm Accounting (BA 361) | 3 | .... | .... |
| Rural Finance (ES 367)..... | 3 | .... | .... |
| Economic Organization of Agriculture (ES 364)..... | .... | 3 | .... |
| Rural Sociology (ES 464)..... | .... | .... | 3 |
| Business Management (BA 332)..... | .... | .... | 3 |
| ③Crop Production (FC 100) ..... | .... | .... | 5 |
| ③Elements of Dairying (DH 200) | 4 | .... | .... |
| ③Stock Judging (AH 111) ..... | .... | 3 | .... |
| ④Market Business Practice (BA 363) ..... | .... | .... | 3 |
| Electives | 3 | 4 | 3 |
| | <hr/> 17 | <hr/> 17 | <hr/> 17 |

①Optional with Science in the sophomore year, but nine credits in History are required for graduation.

②Students in Commerce may substitute ES 203 for this course. Students in Agriculture who intend to take the major in Marketing should elect ES 362 in the sophomore year.

③These courses may be modified to suit the requirements of students who major in various departments in Agriculture.

④It is highly advisable that students who plan to specialize in Marketing should have a year in Accounting. BA 101 is a prerequisite to BA 363.

Senior Year

| | 1st | Term 2d | 3d |
|--|-----|------------|-----|
| Markets and Marketing (ES 402, 603)..... | --- | 4 | 4 |
| Transportation (ES 403)..... | --- | --- | 4 |
| Insurance (ES 303)..... | --- | --- | 4 |
| State and Local Government (PS 302)..... | --- | 3 | --- |
| National Government (PS 301)..... | 3 | --- | --- |
| Principles of Advertising (BA 441)..... | --- | 3 | --- |
| ①Farm Management (FMg 302)..... | --- | 4 | --- |
| ①Livestock Management (AH 221)..... | 4 | --- | --- |
| Elements of Horticulture (Hrt 100)..... | 5 | --- | --- |
| Electives | 5 | 3 | 5 |
| | 17 | 17 | 17 |

SUGGESTED ELECTIVE COMBINATIONS

While the student may choose other subjects than those enumerated below, he is strongly urged to adopt one of the suggested combinations. Men are urged to elect Military Science and Tactics. Women are urged to select PEw 123, Sanitary Science. The nine required credits in Physical Science must be completed in the junior year. See page 191.

1. BUSINESS ADMINISTRATION

Junior Year

| | 1st | Term 2d | 3d |
|--|-----|------------|-----|
| Bank Accounting and Administration (BA 301)..... | 3 | --- | --- |
| Auditing (BA 302)..... | --- | 3 | --- |
| C. P. A. Problems (BA 303)..... | --- | --- | 3 |
| Public Speaking | --- | --- | 3 |
| History of Oregon (Hst 241)..... | --- | --- | 3 |
| Electives | 4 | 4 | 2 |
| | 7 | 7 | 11 |

Senior Year

| | | | |
|--|-----|-----|-----|
| Governmental and Institutional Accounting (BA 401).... | 3 | --- | --- |
| Analysis of Accounts (BA 402)..... | --- | 3 | --- |
| Elements of Statistics (ES 313)..... | --- | --- | 3 |
| Principles of Advertising (BA 441)..... | --- | 3 | --- |
| Elementary Industrial Journalism (IJ 200)..... | 3 | --- | --- |
| Markets and Marketing (ES 603)..... | --- | --- | 4 |
| Electives | 4 | 7 | 2 |
| | 10 | 13 | 9 |

①These courses may be modified to suit the requirements of students who major in various departments in Agriculture.

2. ECONOMICS AND SOCIOLOGY

Junior Year

| | 1st | Term 2d | 3d |
|---------------------------|-----|------------|----|
| Modern Language | 3 | 3 | 3 |
| Cooperation (ES 323)..... | | | 4 |
| Electives | 4 | 4 | 4 |
| | 7 | 7 | 11 |

Senior Year

| | | | |
|--|----|------|------|
| Governmental and Institutional Accounting (BA 401).... | 3 | .... | .... |
| Analysis of Accounts (BA 402)..... | | 3 | .... |
| Thesis in Accounting and Business Management (BA 403) | | | 3 |
| Modern Language | 3 | 3 | 3 |
| Electives | 4 | 7 | 3 |
| | 10 | 13 | 9 |

3. POLITICAL SCIENCE

Junior Year

| | | | |
|-----------------|---|---|----|
| English | 3 | 3 | 3 |
| Electives | 4 | 4 | 8 |
| | 7 | 7 | 11 |

Senior Year

| | | | |
|--|----|------|------|
| Governmental and Institutional Accounting (BA 401)... | 3 | .... | .... |
| Analysis of Accounts (BA 402)..... | | 3 | .... |
| Thesis in Accounting and Business Management (BA 403) | | | 3 |
| Practical Legislation (PS 412)..... | | 4 | .... |
| Advanced American Government (PS 411)..... | 4 | .... | .... |
| Electives | 3 | 6 | 6 |
| | 10 | 13 | 9 |

4. OFFICE TRAINING

Junior Year

| | | | |
|---|---|---|----|
| Reporters' Course (OT 401, 402, 403)..... | 3 | 3 | 3 |
| Accounting Practice (BA 201)..... | | | 3 |
| Electives | 4 | 4 | 5 |
| | 7 | 7 | 11 |

Senior Year

| | 1st | Term 2d | 3d |
|--|-----|------------|-----|
| Principles of Advertising (BA 441)..... | --- | 3 | --- |
| General Sociology (ES 305)..... | 3 | --- | --- |
| Applied Sociology (ES 413)..... | --- | --- | 3 |
| Markets and Marketing (ES 603)..... | --- | --- | 4 |
| Elementary Industrial Journalism (IJ 200)..... | 3 | --- | --- |
| Electives | 4 | 10 | 2 |
| | 10 | 13 | 9 |

5. MARKETS AND SALESMANSHIP**Junior Year**

| | | | |
|---|-----|-----|-----|
| Introduction to Foreign Trade (ES 306)..... | 3 | --- | --- |
| Advanced Commercial Geography (ES 304)..... | --- | 3 | --- |
| Insurance (ES 303)..... | --- | --- | 4 |
| Modern Language | 3 | 3 | 3 |
| Electives | 4 | 4 | 5 |
| | 7 | 7 | 11 |

Senior Year

| | | | |
|---|-----|-----|-----|
| Elementary Psychology (Psy 301)..... | 3 | --- | --- |
| Principles of Advertising (BA 441)..... | --- | 3 | --- |
| Comparative Governments (PS 403)..... | --- | --- | 3 |
| Science | 3 | 3 | 3 |
| Electives | 3 | 3 | 3 |
| | 9 | 9 | 9 |

6. MINOR IN COMMERCIAL EDUCATION**Junior Year**

| | | | |
|---------------------------------------|-----|-----|-----|
| Elementary Psychology (Psy 301)..... | 3 | --- | --- |
| Vocational Psychology (Psy 312)..... | --- | 3 | --- |
| Educational Psychology (Psy 322)..... | --- | --- | 3 |
| History of Oregon (Hst 241)..... | --- | --- | 3 |
| Electives | 4 | 4 | 5 |
| | 7 | 7 | 11 |

Senior Year

| | | | |
|---|-----|-----|-----|
| Secondary Education in Commerce (CEd 451)..... | 3 | --- | --- |
| Practice Teaching in Commerce (CEd 461, 462)..... | --- | 5 | 5 |
| Electives in Vocational Education | 7 | 8 | 4 |
| | 10 | 13 | 9 |

7. MINOR IN AGRICULTURE

Junior Year

| | 1st | Term 2d | 3d |
|---|------|------------|------|
| Crop Production (FC 100)..... | 5 | .... | .... |
| Elements of Horticulture (Hrt 100)..... | .... | 5 | .... |
| Elements of Dairying (DH 200)..... | .... | .... | 4 |
| Electives in Agriculture ..... | .... | .... | 5 |
| | 5 | 5 | 9 |

Senior Year

| | | | |
|---|------|------|------|
| Stock Judging (AH 111)..... | 3 | .... | .... |
| Farm Management (FMg 302)..... | .... | 4 | .... |
| Soil Drainage and Irrigation (Sls 203)..... | .... | .... | 3 |
| Electives in Agriculture | 7 | 9 | 6 |
| | 10 | 13 | 9 |

8. MINOR IN HOME ECONOMICS

Junior Year

| | | | |
|--|------|------|------|
| Principles of Foods and Cookery (HS 101 or HS 201).... | 3 | .... | .... |
| Dress Design and Construction (HA 118) ..... | .... | 3 | .... |
| Management of the Home (HAd 141) ..... | .... | .... | 3 |
| Electives | 2 | 2 | 6 |
| | 5 | 5 | 9 |

Senior Year

| | | | |
|---|----|----|---|
| Household Chemistry (Ch 111, 112, 113)..... | 3 | 3 | 3 |
| Electives in Home Economics..... | 7 | 10 | 6 |
| | 10 | 13 | 9 |

Students who have taken these subjects in the freshman and sophomore years will select advanced courses, subject to approval of the head of the department.

9. MINOR IN ENGINEERING

Junior Year

| | | | |
|--------------------------------------|------|------|------|
| Plane Trigonometry (Mth 111)..... | 4 | .... | .... |
| Algebra (Mth 121)..... | .... | 4 | .... |
| Differential Calculus (Mth 251)..... | .... | .... | 4 |
| Engineering Survey (ME 101)..... | .... | 1 | .... |
| Woodwork (IA 121)..... | .... | .... | 2 |
| Electives in Engineering | 3 | 2 | 5 |
| | 7 | 7 | 11 |

Senior Year

| | 1st | Term 2d | 3d |
|--|-----------|------------|----------|
| ①Mechanical Drawing (ME 111)..... | 2 | --- | --- |
| ①Gas or Steam Engines (ME 124 or 122)..... | --- | 3 | --- |
| Auto Mechanics (IA 181)..... | --- | --- | 2 |
| Electives in Engineering | 8 | 10 | 7 |
| | <u>10</u> | <u>13</u> | <u>9</u> |

10. MINOR IN PHYSICAL EDUCATION

Junior Year

| | | | |
|---|---------------|---------------|---------------|
| General Zoology (ZP 101, 102)..... | 3 | 3 | --- |
| Comparative Zoology (ZP 103)..... | --- | --- | 3 |
| Advanced Aesthetic Dancing (PEW 331, 332, 333)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Advanced Outdoor Sports (PEW 241, 242, 243)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Electives (Education recommended) | 3 | 3 | 7 |
| | <u>7</u> | <u>7</u> | <u>11</u> |

Senior Year

| | | | |
|--|-----------|-----------|----------|
| Physiology and Anatomy (ZP 211, 212, 213)..... | 3 | 3 | 3 |
| Organization and Administration of Physical Education and Recreation (PEW 472)..... | --- | 3 | --- |
| Advanced Hygiene and Sanitary Science (PEW 423).... | --- | --- | 2 |
| History of Physical Education (PEW 431)..... | 3 | --- | --- |
| Electives (English or Education recommended) | 4 | 7 | 4 |
| | <u>10</u> | <u>13</u> | <u>9</u> |

11. MINOR IN INDUSTRIAL JOURNALISM

Junior Year

| | | | |
|--|----------|----------|-----------|
| Elementary Industrial Journalism (IJ 200)..... | 3 | --- | --- |
| Industrial Journalism (IJ 310)..... | --- | 3 | --- |
| Editing (IJ 320)..... | --- | --- | 3 |
| Electives in English, Industrial Journalism, and Military Science and Tactics | 4 | 4 | 8 |
| | <u>7</u> | <u>7</u> | <u>11</u> |

Senior Year

| | | | |
|--|-----------|-----------|----------|
| Editorial Writing (IJ 440)..... | 3 | --- | --- |
| Journalism Practice (IJ 204)..... | --- | 2 | --- |
| Technical Journalism (IJ 330)..... | --- | --- | 3 |
| Electives in English, Industrial Journalism, and Military Science and Tactics | 7 | 11 | 6 |
| | <u>10</u> | <u>13</u> | <u>9</u> |

①Optional with selected subjects in other departments of Engineering, subject to approval of the head of the department.

VOCATIONAL CURRICULUM IN COMMERCE

| | First Year | | |
|--|------------------|------------------|------------------|
| | 1st | Term 2d | 3d |
| Introduction to Accounting (BA 101) or Elementary Stenography (OT 101)..... | 3 | .... | .... |
| Principles of Accounting (BA 102) or Elementary Stenography (OT 102)..... | .... | 3 | .... |
| Accounting Practice (BA 103) or Elementary Stenography (OT 103)..... | .... | .... | 3 |
| Elementary Typing (OT 111, 112, 113)..... | 2 | 2 | 2 |
| Vocational English (Eng 11, 12, 13)..... | 3 | 3 | 3 |
| Elementary Commercial Geography (ES 21)..... | .... | 3 | .... |
| United States History (Hst 10)..... | 3 | .... | .... |
| American Civil Government (PS 13)..... | .... | .... | 3 |
| Commercial Arithmetic (Mth 91, 92, 93)..... | 3 | 3 | 3 |
| Penmanship (BA 11, 12, 13)..... | 1 | 1 | 1 |
| Gymnasium (Men) | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Gymnasium (Women) | (1) | (1) | (1) |
| Social Ethics (PEw 121), Hygiene (PEw 122) (Women) | (1) | (1) | .... |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ |
| Second Year | | | |
| Corporation Accounting (BA 201), Industrial Accounting (BA 202), Cost Accounting (BA 203)..... | 3 | 3 | 3 |
| Office Methods and Appliances (OT 251, 252, 253).... | 2 | 2 | 2 |
| Advanced Vocational English (Eng 21, 22, 23)..... | 3 | 3 | 3 |
| Economic History of Europe (ES 111) ..... | .... | 4 | .... |
| Elementary Industrial History (ES 22)..... | 3 | .... | .... |
| Business and Rural Law (PS 163) ..... | .... | .... | 3 |
| Gymnasium (Men) | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Gymnasium (Women) | (1) | (1) | (1) |
| Military Science and Tactics..... | 2 | 2 | 2 |
| Electives | 4 | 3 | 4 |
| | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ |

Courses in degree curricula are designated by numbers of three digits in which the left-hand digit represents usually the year (as first, second, third, etc.) in which the course is normally pursued; the middle digit represents the group of related courses in the department to which the course belongs; and the right-hand digit represents the sequence of courses in cases where courses normally follow each other in succeeding terms. Courses in vocational curricula are numbered with two digits, the first generally representing the year in which the course is pursued, the second the sequence of the course.

Under each department descriptions of vocational courses are printed immediately after the descriptions of collegiate courses.

BUSINESS ADMINISTRATION

The distinctive work of the department of Business Administration is to train men and women for efficient business organization and management. This includes thorough courses in the various phases of accounting, auditing, business organization, scientific management, advertising, and salesmanship.

While the courses in Business Administration are primarily designed to fit students for the counting-house and business office, including banking, such positions are generally only stepping stones to work of greater trust and responsibility. A large percentage of the commercial students eventually engage in business of their own.

The School of Commerce has taken a leading part in developing courses in business methods especially adapted to the farm and other industrial enterprises, the home, and cooperative institutions. Such courses are given not only in residence but also by correspondence.

When it is remembered that every vocation has its business side, and that this phase of all pursuits is receiving increasing attention, it is apparent that the avenues of employment and the chances for promotion for the really competent business expert are almost unlimited. As a preparation for law or public accounting, the work of this department, combined with Economics and Political Science, is especially attractive. A large proportion of the graduates in Commerce find employment as teachers of commercial subjects in state and private schools; to them the courses in Business Management are very important.

Equipment. The department of Business Administration is completely equipped for thorough and efficient work in modern business courses. Each room is especially designed and furnished for the work conducted in it. The furniture of the department consists of individual desks and counters and complete sets of office fixtures. Permanent blank books, letter files, rubber stamps, blanks, and similar material are provided by the department. Modern accounting and office machinery of various types, including adding machines, posting machines, a bookkeeping typewriter, calculating machines, duplicators, mimeographs, dictaphones, mimeoscope, filing cabinets, and typewriters, is available for student practice.

For outline of courses in Business Administration, see pages 192-193.

COLLEGIATE COURSES

BA 101. Introduction to Accounting. A thorough but rapid study of the general principles of bookkeeping. The aim of this course is to afford those students entering the Vocational or Degree curricula in Commerce, who have not had a year of bookkeeping, an

opportunity to secure preparation which will enable them to carry course BA 102.

Required in Commerce (freshman year) and in Vocational Curriculum (first year); any term; 3 credits; 3 recitations. Fee \$1.00. Text: Rittenhouse and Clapp, *Accounting Theory and Practice*.

L. C. Ball, L. H. Mardis

BA 102. Principles of Accounting. Modern accounting as practiced in the best business establishments; the use of special columns; controlling accounts, and their adaptations; labor-saving devices of all kinds studied with a constant view to secure greater accuracy and to diminish work; practice in retail, wholesale, and financial statements.

Prerequisite: BA 101 or equivalent. Required in Commerce (freshman year) and in Vocational Curriculum (first year); any term; 3 credits; 3 recitations. Fee \$1.00. Text: Rittenhouse and Clapp, *Accounting Theory and Practice*. *L. C. Ball, L. H. Mardis*

BA 103. Accounting Practice. A continuation of BA 102. A further study of special columns; partnership profits; admission of new partner; shipments and consignments; depreciation, reserves, and good will; opening corporation books.

Prerequisite: BA 102. Required in Commerce (freshman year) and in Commerce Vocational Curriculum (first year); any term; 3 credits; 2 lectures; 1 recitation. Fee \$1.00. Text: Rittenhouse and Clapp, *Accounting Theory and Practice*. *L. C. Ball, L. H. Mardis*

BA 141. Retail Selling. A general course covering the leading principles of retail salesmanship, and the development and expansion of the different aspects of the vocation, such as systems, policies, and conditions in retail stores.

Required in Commerce; freshman year; first term; 3 credits; 3 lectures. Text: Norton, *Retail Selling*.

BA 142. Introduction to Advertising. A general introductory course in advertising covering a study of the possible fields of advertising, materials of advertising mediums, a study of advertising campaigns, and a justification of advertising as a fixed expense.

Required in Commerce; freshman year; second term; 3 credits; 3 lectures.

BA 143. Credits and Collections. A general course in the accountancy of salesmanship, stressing practices of retail houses in the extension of credit, measurements of a risk, responsibility of the salesman to the credit department, and all phases of collection practices.

Required in Commerce; freshman year; third term; 3 credits; 3 lectures.

BA 201. Corporation Accounting. Theory of corporation accounting and the preparation of books illustrating the principles involved. Considerations of depreciation, reserves, advanced forms of final statement; statement of affairs and deficiency accounts; realization and liquidation. Throughout the course, theory is supplemented by problems and practice to develop initiative and originality. Publications issued by United States Office of Markets are studied.

Prerequisite: BA 103. Required in Commerce (sophomore year) and in Vocational Curriculum (second year); first or third term; 3 credits; 2 lectures; 1 recitation. Fee \$1.00. Text: Klein, *Elements of Accounting*. *F. L. Robinson*

BA 202. Industrial Accounting. A study of the accounting required by different industrial enterprises such as grain elevators and creameries.

Prerequisite: BA 201. Required in Commerce; sophomore year; second term; 3 credits; 3 recitations. Fee \$1.00. *F. L. Robinson*

BA 203. Cost Accounting. This course covers the broader economic phases of accounting. Emphasis is laid on accounts as a means of administrative control and economy of production. (a) Theory of Cost Accounting. The elements of costs; cost and stock records; relation of cost accounts to the financial records; distribution of overhead; cost statements; graphical representation of costs. (b) Factory Costs. A laboratory course especially adapted to a manufacturing business with a considerable pay-roll.

Prerequisite: BA 103 or BA 261. Required in Commerce; sophomore year; third term; 3 credits; 3 recitations. Fee \$1.00. Text: Nicholson, *Cost Accounting*.

BA 301. Bank Accounting and Administration. A practical course in bank accounting, organization, and administration; the records and reports required of national and state banks; preparation and interpretation of bank reports; bank and clearing-house statistics; trust companies and savings banks; foreign exchange. Text supplemented by selected exercises.

Prerequisite: BA 201 or equivalent. Elective in Commerce; junior year; first term; 3 credits; 3 recitations. Text: Wolfe, *Practical Banking*; Twentieth Century Bank Accounting and Other Problems.

BA 302. Auditing. The duties and responsibilities of the auditor; his function in the executive staff; his relation to the accounting department; different classes of audits; investigation in the conduct of the utility corporations, municipalities, and public institutions.

Typical audits will be studied and compared. Text supplemented by selected exercises.

Prerequisite: BA 201 or 203. Elective in Commerce; junior year; second term; 3 credits; 3 recitations. Text: Montgomery, Auditing in Principle and Practice.

BA 303. Income Tax Procedure. A thorough study of income, excess profits, and other Federal taxes as they affect business, with particular reference to the accounting department. The aim is to train the student to determine these taxes correctly and to prepare the required returns and reports. The preparation of regular return forms is required in connection with the solution of practical problems.

Prerequisite: BA 201. Elective in Commerce; junior year; third term; 3 credits; 3 recitations.

BA 331. Business Organization. General nature of business organization; evolution and forms of business units; structure and life history of typical corporations; the corporation and trust problem; public utility corporations; reorganization and receivership; blue sky laws and state control.

Required in Commerce; elective to others; junior year; first term; 3 credits; 2 lectures; 1 recitation. Texts: Haney, Business Organization and Combination. Babson's Reports. *A. C. Schmitt*

BA 332. Business Management. Emphasis on the internal organization of a business for the purpose of securing efficiency; departmental organization and coordination; various systems of scientific management studied and compared.

Required in Commerce; elective to others; junior year; second term; 3 credits; 2 lectures; 1 recitation. Texts: Marshall, Business Administration. Babson's Reports.

BA 343. Purchasing and Selling. (a) Purchasing. Principles of purchasing; relations of buying to successful merchandising and manufacturing; ethics of buying; the purchasing organization; records of purchasing; stores, their function and operation; markets; agents; brokers; jobbers; wholesalers; statistics; selected problems in purchasing. (b) Selling. Qualifications of a salesman; business ethics; wholesaling and retailing; brokerage and commission; specialty selling; the sale of service; planning a selling campaign; special sales; prices and profits; selected problems in selling.

Required in Commerce; elective to others; junior year; third term; 3 credits; 2 lectures; 1 recitation. Texts: Rindfoos, Purchasing. Babson's Reports. *A. C. Schmitt*

BA 361. Farm Accounting. While this course is a thorough discussion of systems of accounts suited to the farm, the fundamental principles of accounting are not ignored. Cost accounting is especially emphasized, with a view to determining the results of different enterprises. A thorough study is made of the income tax law as related to farm accounting.

Required in Agriculture; junior year; second term; 3 credits; 1 lecture; 2 recitations. Text: Bexell and Nichols, *Principles of Bookkeeping and Farm Accounts.* *F. L. Robinson*

BA 363. Market Business Practice. This course covers the business management of cooperative societies. It includes such subjects as organization of employees; buildings, office arrangement, and equipment; correspondence and filing; bookkeeping and cost accounting especially adapted to different types of cooperative associations in the United States, such as creamery associations and cow-testing associations; auditing; banking and finance; purchasing; advertising; selling; depreciation of assets; conduct of membership meetings; annual reports and audits; statistical analysis of operations.

Prerequisite: BA 101 or equivalent. Elective in Agriculture; junior year; third term; 3 credits; 1 lecture; 2 recitations. Text: *The Cooperative Secretary.* United States Bureau of Markets Bulletins. *F. L. Robinson*

BA 371. Business Management for Women. The aim of this course is to treat in a practical way the ordinary rules and methods of conducting business affairs. Two distinct phases are emphasized as follows: (a) Finance. Value of money, how savings grow, banking and credit, general principles of investment, loan associations, bonds, stocks, and insurance. (b) Fundamentals of Business Law. The principles of the law of contracts, of negotiable paper, mortgages, real property, and wills.

Required in Home Economics; junior year; third term; 3 credits; 1 lecture; 2 recitations.

BA 381. Business Organization and Management. A condensed course for students other than Commerce. Principles of business organization; types, including partnerships, corporations, and other business units; locating an industry; plant and equipment; buying, receiving, storing, and recording material; financing an enterprise; budgets and reports; banking practice; determination of costs; standardization; wage systems; welfare and employment problems.

Required in Engineering; elective to others; junior year; second term; 3 credits; 3 lectures and recitations. *A. C. Schmitt*

NOTE: BA 361, 362, 363, 371, and 381 are not open to students in Commerce.

BA 385. Principles of Accounting for Engineers. An abbreviated course covering the general principles of accounting, designed especially for Engineering students. Emphasis is placed on accounting principles, rather than technique. The ultimate aim is to prepare the student to read and interpret accounting facts, rather than to construct accounts.

Required in Civil Engineering (second term) and in Logging Engineering (third term); junior year; 3 credits; 3 lectures. Fee \$1.00. *F. L. Robinson*

BA 391. Army Paper Work. A study of the business methods and accounting of the United States Army as represented by its blanks and forms, and the regulations governing the use of such forms. The business methods of the Supply and Adjutant General Department are analyzed and compared with those used in civil life. Considerable outside reading is required to obtain credit in this course. The lectures are given by members of the R. O. T. C. Staff. The outside work is based upon Army Regulations and Instructions.

Elective; junior or senior year; first or second term; 2 credits; 1 lecture; 1 recitation. *L. Partlow*

BA 401. Governmental and Institutional Accounting. Financial and property accounting, especially as applied to the municipal, state, and national governments and institutions; estimates, appropriations, apportionments, allotments, methods of handling pay; purchase of supplies and equipment; property accounting and accountability; how supplies and property are obtained, issued, and accounted for in the various organizations; the preparation of budgets and reports.

Prerequisite: BA 201 or equivalent. Elective; senior year; first term; 3 credits; 1 lecture; 2 recitations. Text: Eggleston, Municipal Accounting.

BA 402. Analysis of Accounts. Interpretation of balance sheets, income sheets, and financial reports; graphical representation of business statistics; preparation of income tax statements. Government documents and bulletins used as texts.

Prerequisites: BA 302, 332. Elective; senior year; second term; 3 credits; 1 lecture; 2 recitations.

BA 403. C. P. A. Problems. This course covers a large variety of practical problems viewed from the standpoint of the manager rather than the accountant. The material is drawn from certified public accountancy examinations and other sources. The student does not follow any prescribed form of treatment or solution, but is expected to develop analytical initiative, resourcefulness, and originality. Designed as a preparation for the C. P. A. examination. Text supplemented by selected exercises.

Prerequisite: BA 303. Elective in Commerce; senior year; third term; 3 credits; 3 recitations.

BA 404. Thesis in Accounting and Business Management. A research course and treatise on the organization and management of a business in which the student is especially interested. The subject of the thesis must be chosen at the time of registration, and a complete outline approved by the professor in charge, not later than November 1. When the thesis is approved, a bound (either printed or typewritten) copy must be deposited in the College Library. Subject and list of reading to be approved within two weeks from date of registration.

Prerequisite: All College courses in Accounting and Business Management, or equivalent. Open only to seniors in Commerce; any term; 3 credits.

BA 441. Principles of Advertising. Psychology and functions of advertising; classification and mediums; writing of copy and proof reading; types and display; engraving and printing methods; advertising and follow-up systems; advertising agencies.

Prerequisite: BA 343. Required in Commerce; elective to others; senior year; second term; 3 credits; 2 lectures; 1 recitation.

H. T. Vance

VOCATIONAL COURSES

(Credits in vocational courses are non-collegiate.)

BA 61. Farm Accounting. An elementary course in the principles of bookkeeping and business methods as they apply to the farm; farm cost accounts and financial reports, with special reference to the income tax report; special records; inventories, valuation and depreciation; elements of banking; negotiable papers; the business letter; business forms; office equipment.

Required in Agriculture Vocational Curriculum; third term; 3 credits; 1 lecture; 2 recitations. (Not given in 1922-23.)

F. L. Robinson

BA 71. Shop Accounting. A course in the theory and practice of accounting, especially adapted to the shop. Sufficient time is devoted to the fundamental principles of bookkeeping to familiarize the student with the use of special columns and various labor-saving devices. A special set of books adapted to the shop is then studied and prepared, making the course exceptionally practical. Text supplemented by original exercises.

Required in Mechanic Arts Vocational Curriculum; third term; 3 credits; 1 lecture; 2 recitations. Text: I. C. S., Cost Accounting.

ECONOMICS AND SOCIOLOGY**Including Rural Markets and Rural Organization**

The work of this department serves the following purposes:

(1) **To train both men and women for citizenship.** Every citizen has business relations requiring a knowledge of the fundamental principles of economics. The necessity of such knowledge is especially felt in a democracy where every man and woman has the right to vote and is called upon to mold legislation directly. The basis for intelligently exercising this paramount duty of citizenship can only be supplied by a training in economics and sociology, the problems of which form the subject-matter of most legislation.

(2) **To provide economic training for technical students.** Three credits in economics are required of all students in the College. In consultation with the deans of the various schools, required and elective courses have been worked out supplementary to the work of each school.

(3) **To train specialists in Agricultural Economics and Rural Sociology.** The School of Agriculture provides that students may elect a minor in Agricultural Economics and Rural Sociology. Such a minor affords excellent preparation for those who intend to go back to the farm and assume positions of business, educational, and political leadership. It gives the training needed for positions in state and Federal bureaus of markets. It lays a foundation for a business career as commission man, broker, jobber, wholesaler, or exporter of farm products. It should give the best possible training for positions as county agents, where capacity for leadership outweighs all other considerations.

(4) **To do field work. The Bureau of Organization and Markets.** In 1914 the Board of Regents established the Bureau of Organization and Markets for the purpose of assisting farmers in marketing their products. The Bureau has been carrying on its work in cooperation with the Bureau of Markets of the United States Department of Agriculture.

The work of the Bureau, in the first place, is investigational. It aims to find out the conditions fundamental to successful marketing, and to place the results of its investigation at the disposal of all who are interested. In the second place, it is at the service of any group of farmers contemplating the establishment of any sort of business organization. It has worked out model constitutions and by-laws and standardized systems of accounting; it has lists of equipment and, in cooperation with the various technical departments of the

College, can inform farmers where such equipment can be most cheaply obtained. It also assists organizations in planning the kind of plants necessary to carry on their business.

Equipment. The department has for some years been developing a commercial museum for use in the various courses in economic and social science. The museum has now grown to such an extent that it is a very important factor in making the work of the department practical and successful. The Bureau of Organization and Markets also has a collection of bulletins, pamphlets, lantern slides, and documents illustrating the farmers' marketing and organization movement in all parts of the world.

COLLEGIATE COURSES

ES 101. Commercial Geography. The physiographic basis of commerce and industry; the natural resources of the different countries of the world; the geographic distribution of labor and industry as determined by natural conditions such as climate, topography, soil, and mineral resources. Specimens from the Commercial Museum are used by the students. Assigned readings, outline maps. (Not to be taken by students presenting Commercial Geography for entrance credit.)

Required in Commerce and Industrial Arts (freshman year) and in Mechanical Engineering (sophomore year); any term; 4 credits; 4 recitations. Text: Robinson, Commercial Geography.

W. H. Dreesen, J. F. Page

ES 103. Commercial Geography. An advanced course for students who have had Commercial Geography in high school.

Required in Commerce; freshman year; third term; 4 credits; 4 recitations.

W. H. Dreesen

ES 111. Economic History of Europe. A course covering the most important economic changes and achievements in Europe during the past three hundred years; study of the rise and decline of the manorial system; important changes in agriculture; rise of factory system; trades unionism; the development of commercial policies; labor conditions and legislation, together with socialism and social insurance.

Required in Commerce; freshman year; any term; 4 credits; 4 recitations. Text: Ogg, Economic Development of Modern Europe.

E. B. Mittelman

ES 201. Economic History of the United States. On the basis of a knowledge of our natural resources and of the previous commercial and economic development of the world, attempt is made to

outline and interpret the economic and social progress of the United States. The development of agriculture, the growth of manufacturing, the improvement of transportation, the history of labor organization and legislation, the evolution of our monetary and credit systems, changes in the protective tariff, progress towards economic and social solidarity, etc., are traced from Colonial times onward.

Prerequisites: ES 101, 111. Required in Commerce; sophomore year; first term; 3 credits; 3 recitations. *H. Macpherson*

ES 203. Principles of Economics. A general course covering the elementary problems of our industrial and commercial organization, the nature of wealth, its production and consumption, the different forms in which it is found; conditions underlying successful commerce and manufacturing; localization of industry and relation of raw material to manufacturing; law of diminishing returns; division of labor and efficiency production; exchange and distribution and their dependence upon the price-making process; factors determining prices, wages, interest, and rent; problems of taxation; public expenditures; protection and free trade; money and banking; labor problems and transportation. Text-book, lectures, and reports on assigned readings.

Prerequisites: ES 101, 201. Required in Commerce; sophomore year; second or third term; 4 credits; 4 recitations. Text: Ely, Outline of Economics. Marshall, Wright and Field, Materials for the Study of Elementary Economics.

W. H. Dreesen, E. B. Mittelman

ES 211. Conservation. Economic wastes arising out of the exploitation of natural resources; the mal-adjustment of industry; the misdirection of labor; the present order of consumption; conservation laws and policies tending to eliminate wastes and abuses.

Elective; first term; 4 credits; 4 recitations. Open to any student who has had ES 203, ES 391, or ES 362, or equivalent.

N. H. Comish

ES 301. Labor Problems. Brief historical review of the rise of a labor class; influence of occupation upon the laborer; beginnings of organization; structure, aims, methods of offense and defense; achievements of associations of labor; the trade agreement; the strike; the boycott; the lockout; methods of conciliation and arbitration; application of the injunction in labor disputes; political activity of labor organizations; the employers' association; the employers' liability; workingmen's insurance; profit-sharing and cooperation in relation to labor problems. Text-book, lectures, and assigned readings. Studies are made of typical historical and current labor disputes and embodied in term papers and class discussion.

Prerequisite: ES 203 or ES 391. Elective in Commerce (junior or senior year); required in Forestry (sophomore year); second term; 4 credits; 4 recitations. *H. Macpherson*

ES 303. **Insurance.** A course designed to cover, in a general way, the whole field of insurance. Nature and statistical basis of different kinds of insurance; application of the principles discovered to different forms of insurance such as straight life, endowment, accident, industrial, old age, fire, livestock, hail, etc., taken up in detail.

Elective; junior or senior year; third term; 4 credits; 4 recitations. Text: Heubner, Life Insurance, Property Insurance.

W. H. Dreesen

ES 304. **Advanced Commercial Geography.** An advanced course in the study of ocean trade routes, ship canals, ports, and terminals, ocean transportation service and marine insurance. For students planning to enter foreign trade.

Elective to students who have had ES 101 and ES 203; first term; 3 credits; 3 recitation and lecture periods. *W. H. Dreesen*

ES 305. **General Sociology.** Origin, development, present conditions, and social functioning of our social units, such as the family, the school, the church, clubs, associations, institutes, etc.; the city, state, and nation; interpretation of the causes of the strength and weakness of modern social institutions, showing their influence upon the general welfare of society and the progress toward greater efficiency; analysis of the social causes and effects of ignorance; vice and crime; poverty; unstable family relations; political dishonesty, etc.; general discussion of the principles underlying their elimination.

Elective; junior year; any term; 4 credits; 4 recitations.

H. Macpherson, J. F. Page

ES 306. **Introduction to Foreign Trade.** International values; international commercial policies and treaties; bases of foreign trade; consular service; foreign exchange and international banking systems; ocean routes and carriers; methods of packing and shipping; shipping documents; marine insurance; foreign trade organizations.

Elective to students who have had ES 101 and ES 203; second term; 4 credits; 4 recitation and lecture periods. *W. H. Dreesen*

ES 311. **Money and Banking.** (a) Money. The nature and functions of money; legal tender; the factors affecting price, and their relation to business conditions; brief history of the various forms of paper money; silver legislation; present problems and conditions. (b) Banking. Functions of banks; history of banking, including our national banking system, with emphasis upon the

Federal Reserve Bank Act; currency and banking principles underlying United States and foreign banking systems; comparison of our banking system with those of foreign countries. Assigned readings. Two sections first term; one section second term.

Prerequisite: ES 203. Commerce; junior year; first or second term; 4 credits; 4 recitations. Text: Holdsworth, Money and Banking. *W. H. Dreesen*

ES 313. The Elements of Statistics. A description of the methods of collecting and interpreting original and secondary data; practice in scientifically presenting statistics in such forms as tables, charts, diagrams, curves, and maps.

Elective; junior, senior, or graduate year; second term; 3 credits; 3 recitations. Text: Secrist, Introduction to Statistical Methods. *E. B. Mittelman*

ES 323. Cooperation. Origins, structures, objects, methods, and results of cooperative producers', consumers', and marketing associations, including, for example, such cooperative organizations as creameries, cheese factories, meat factories, stores, purchasing societies, consumers' leagues, warehouses, grain elevators, fruit and vegetable associations, livestock societies, credit and insurance companies.

Elective to juniors and seniors who can not take ES 364 and ES 367, and who have had ES 203, ES 391, or ES 362, or equivalent; third term; 4 credits; 4 recitations. *N. H. Comish*

ES 362. Agricultural Economics. Fundamental principles of production, consumption, and distribution with special reference to agriculture; land tenure; land values; the law of proportions; price-making processes; money; banking; rural credit; cooperation; marketing; transportation; taxation; rent; interest; wages; and profits. One section first term; two sections second term.

Required in Agriculture; junior year; first or third term; 3 credits; 3 recitations. Text: Taylor, Agricultural Economics.

N. H. Comish

ES 364. The Economic Organization of Agriculture. Economic problems discussed from the standpoint of efficiency to be attained through closer organization; old and new agricultural methods of production, purchasing, transportation, and marketing carefully investigated and compared for the purpose of eliminating waste and duplication; organization of farmers for purposes of production, purchasing, marketing, and insurance taken up in detail; the general farmers' movement resulting in the granges and farmers' unions.

Open to all students who have had ES 362 or its equivalent. Elective; junior or senior year; second term; 3 credits; 3 recitations.

N. H. Comish

ES 365. National Vitality. The general field of national vitality; its importance; the conditions underlying it, and the means of maintaining such conditions; economic and social waste due to disease, alcohol, and vice treated in a series of lectures by experts from different departments of the College; lectures by outside specialists upon particular phases of the subject. Besides taking notes on the lectures, each student is required to make an abstract of not less than three hundred pages of assigned readings. Note: This course will not be given unless at least fifteen students register for it.

Elective; third term; 2 credits; 2 recitations. *H. Macpherson*

ES 366. The Literature and Exposition of Rural Life. A critical study of the general field of literature bearing upon rural life; typical interpretations of rural life from the best poetry and prose; the rural press studied with a view to estimating its sociological and economic influence; themes upon current economic and sociological topics and the subject-matter discussed in the classroom to familiarize the student with the problems involved in the rural life movement.

Elective; junior, senior, or graduate year; second term; 4 credits; 4 recitations. *H. Macpherson*

ES 367. Rural Finance. Various phases of farm finance, including, among other topics, the following: principles of money, banking, and credit; rural credit laws; registration of land titles; rental and transfer contracts; land settlement and colonization policies; types of rural insurance; and the taxation of rural properties.

Open to those who have had ES 362 or equivalent. Elective; junior or senior year; first term; 3 credits; 3 recitations.

N. H. Comish

ES 391. Introduction to Economics. Abbreviated course (see ES 203).

Required except in Commerce and Agriculture; year as specified in the respective curricula; any term; 3 credits; 3 recitations. Text: Ely, Outlines of Economics. *N. H. Comish, E. B. Mittelman*

ES 393. Introduction to Sociology. Abbreviated course (see ES 305).

Required in Home Economics; elective for all students except Commerce; year as may be specified in the respective curricula; any term; 3 credits; 3 recitations. *H. Macpherson, J. F. Page*

ES 396. Introduction to Labor Problems. This course is based upon ES 301, but is abbreviated and adapted to meet the needs of technical students who have had ES 391, or equivalent.

Prerequisite: ES 391, or its equivalent. Required in Forestry; elective for all students except Commerce; junior or senior year; third term; 3 credits; 3 recitations. *H. Macpherson*

ES 401. **Public Finance.** Public expenditures, local, state, and national; brief history of reforms calculated to secure efficiency in these expenditures; forms of taxes, customs, and fees whereby revenues are raised; present systems of land taxation studied in the light of proposed reforms; special attention to war finance; bonds versus taxes in public finance; management of national and local debts. Assigned readings.

Required in Commerce; senior year; first term; 4 credits; 4 recitations. Text: Plenn, Introduction to Public Finance.

W. H. Dreesen

ES 402. **Markets and Marketing.** A critical study of the marketing of staples, semi-staples, and perishable farm products, including the geographical location of producing areas, marketing routes from the producer to the consumer, types of middlemen, direct marketing, marketing costs, standardization, factors influencing prices, and a general description of our whole marketing system as it exists today.

Required in Commerce; elective to other students by permission of instructor; senior year; second term; 4 credits; 4 recitations.

N. H. Comish

ES 403. **Transportation.** Relation of transportation systems to industrial and commercial progress; a brief historical review of the development of systems of transportation; organization and financing of different systems; effect of competition in the railroad business; freight classification and the making of rates and fares; the necessity of government control and attempts at regulation by state and Federal governments; government ownership in the light of European experience.

Elective; senior year; third term; 4 credits; 4 recitations. Text: Ripley, Rates and Regulation.

E. B. Mittelman

ES 406. **Employment Management.** This course aims to introduce the student to the labor problem as found in the shop, mill, or factory, in contradistinction to the labor problem as found in the hopes, aims, and activities of the laborer and his organization. How the principles of scientific management affect the laborer; job analysis; psychological tests; systematic placing and promoting; labor justification in management; the public's concern in such justification. Recommended for seniors in Commerce and Forestry and juniors and seniors in Engineering who expect to employ and manage men.

Elective; junior or senior year; third term; 3 credits; 3 recitations.

E. B. Mittleman

ES 413. Applied Sociology. Application of the principles of sociology to the promotion of social welfare; ethical gains through legislation and through voluntary associated and individual effort for the control of housing, relief of poverty, the suppression of vice, the control of juvenile delinquents, prison reforms, cooperation among religious institutions, elimination of corruption from politics, care and elimination of mental and physical defectives; lectures, supplementary readings, and problem investigation.

Open to students who have had either ES 405 or ES 464. Elective; third term; 3 credits; 3 recitations. *H. Macpherson*

ES 464. Rural Sociology. Special problems of the evolution of rural institutions, the rural community, the rural family, the rural school, the rural church, rural societies and associations: rural systems of transportation and communication; the dependence of national welfare upon the rural community.

Elective; junior or senior year; third term; 3 credits; 3 recitations. *H. Macpherson.*

ES 603. Markets and Marketing. Continuation of ES 402. An intensive study of the products entering domestic and foreign trade and the methods of marketing them. Among other topics taken up are the following: development of marketing systems; speculation, organized and unorganized; local, state, and national commercial programs and policies; commercial clubs, boards of trade, chambers of commerce; foreign trade relations; transportation routes; the consular service; commercial treaties; tariffs; bounties; and foreign exchange.

Elective to graduate and senior students upon consultation with the instructor; third term; 4 credits; 4 recitations. *N. H. Comish*

ES 605. The Principles and Method of the Rural Survey. The principles of the scientific method and their statistical application to rural economic and sociological research; the purposes, forms, and preparation of schedules; editing, tabulation, and interpretation of data; principles of graphic presentation; study of a wide range of typical social and economic surveys, showing varieties of form and method adapted to different purposes. A seminar course for graduate students in Economics and Rural Sociology, to which seniors may be admitted by permission of the instructors.

Prerequisites: ES 203, or ES 391 or ES 362, and ES 305 or ES 393. Elective; senior or graduate year; third term; 5 credits; 2 meetings.

VOCATIONAL COURSES

(Credits in vocational courses are non-collegiate.)

ES 11. Business and Social Organization. Discussion of the principles of better business and better living that should accompany the general improvement in farm methods which it is the purpose of this College to promote; general application of the economic laws of consumption, distribution, and production to the business side of farming; social and economic results of agricultural organization; text-book, lectures, and assigned readings. (Not given in 1922-23.)

Elective in Agriculture Vocational Curriculum; first year; second term; 4 credits; 4 recitations. *N. H. Comish*

ES 21. Elementary Commercial Geography. Especially adapted for Vocational students. A general survey of the fundamental conditions affecting industrial and commercial development, followed by a study of the natural resources, industries, products, and commerce of the United States and each of the principal countries of the world. Emphasis is laid upon the reasons for the organization of industry. Materials from the Commercial Museum are used.

Required in Commerce Vocational Curriculum; first year; second term; 3 credits; 3 recitations. Text: Brigham, Commercial Geography. *W. H. Dreesen*

ES 22. Elementary Industrial History. A general, comprehensive review of the most important phases of the economic development of the United States; historical study of such topics as tariff, internal improvements, slavery, banking, industrial development, commerce and shipping, immigration, and other similar topics; present-day problems, as presented in the press.

Required in Commerce Vocational Curriculum (second year) and in Mechanic Arts Vocational Curriculum; first term; 3 credits; 3 recitations. Text: Moore, Industrial History of the American People. *W. H. Dreesen*

ES 23. Elementary Industrial Problems. Especially designed for Vocational students in Industrial Arts and Commerce. It aims to give them some insight into the economic problems with which they have to deal. A very condensed outline of the principal economic concepts is followed by the discussion of industrial organization, labor problems, transportation, marketing, taxation, etc. (Not given in 1922-23.)

Required in Mechanic Arts Vocational Curriculum and in Commerce Vocational Curriculum (second year); second term; 4 credits; 4 recitations. Text: Ely and Wicker, Elementary Principles of Economics. *W. H. Dreesen*

OFFICE TRAINING AND STENOGRAPHY

The courses offered by this department are for four classes of students: (a) those desiring a thorough training as stenographers and typists; (b) those desiring to go further into the field of court reporting and secretarial training; (c) those desiring to enter the teaching profession; and (d) those commercial teachers desiring advanced training.

The ground covered by the work of this department is as follows: Stenography and Typewriting, two years; Secretarial Training, one year; Convention and Court Reporting, one year; and Methods of Teaching Commerce, one year.

Equipment. The Office Training department is equipped with the latest appliances and fixtures, including the standard types of typewriters, duplicators, mimeographs, dictaphones, mimeoscope, and filing cabinets. Each student is given access to equipment upon payment of a fee required for the course in which he is registered. All equipment and apparatus are kept in constant repair, and students are taught how to keep the apparatus they use in proper order.

COURSES

OT 101. ***Elementary Stenography.** Theory of manual, Gregg Shorthand, first eight lessons covered thoroughly. Shorthand penmanship given especial attention. Typing course OT 111 must be taken concurrently with this course unless student has had an equivalent course.

Required in Commerce (freshman year) and in Commerce Vocational Curriculum (first year); elective to others; first term; 3 credits; 4 recitations. Texts: Gregg Shorthand Manual and Gregg Writer.

OT 102. **Intermediate Stenography.** A continuation of OT 101. Manual completed through the fifteenth lesson. Typing course OT 112 must be taken concurrently with this course unless student has had an equivalent course.

Required in Commerce (freshman year) and in Commerce Vocational Curriculum (first year); elective to others; second term; 3 credits; 4 recitations. Texts: Gregg Shorthand Manual. Gregg Writer. Gregg Speed Studies.

* Less than 9 credits in Stenography or 6 credits in Typing will not be counted toward the bachelor's degree in Commerce. Students in other schools may offer less as elective work.

OT 103. ***Advanced Stenography.** A continuation of OT 102. Theory of manual completed. Thorough review of principles. Special attention given to phrase writing. Beginning dictation. Typing course OT 113 must be taken concurrently with this course unless student has had an equivalent course.

Required in Commerce (freshman year) and in Commerce Vocational Curriculum (first year); elective to others; first or third term; 3 credits; 4 recitations. Texts: Gregg Shorthand Manual. Gregg Writer. Gregg Speed Studies.

OT 111. ***Elementary Typing.** Touch typing. Theory and practice of touch typing, covering mastery of alphabet and numerals. Finger gymnastics, rhythm drills, dictation exercises. A speed of twenty words a minute is required. Required for OT 101 students.

Required in Commerce; elective to others; freshman year; any term; 2 credits; 5 one-hour laboratory periods; 1 hour home assignment. Fee \$2.00. Text: Rational Typewriting.

OT 112. ***Intermediate Typing.** Continuation of OT 111. Drill. Writing paragraphs, continuous matter. Punctuation and mechanical arrangement of business correspondence. A speed of thirty-five words a minute is required. Required of OT 102 students.

Required in Commerce; elective to others; freshman year; any term; 2 credits; 5 one-hour laboratory periods; 1 hour home assignment. Fee \$2.00. Text: Rational Typewriting.

OT 113. ***Advanced Typing.** Continuation of OT 112. Legal forms, tabulating, centering, manifolding, and speed practice. Speed certificates granted. A speed of fifty words a minute is required. Required of OT 103 students.

Required in Commerce; elective to others; freshman year; any term; 2 credits; 5 one-hour laboratory periods; 1 hour home assignment. Fee \$2.00. Text: Rational Typewriting.

OT 201. ***Applied Stenography and Typing.** Advanced principles and phrases, Gregg or Pitman Shorthand. Dictation and transcripts covering vocabularies of representative businesses such as law, banking, insurance, publishing, railway, and manufacturing. Advanced typing and effective arrangement of business correspondence.

Prerequisites: OT 103, 113, or equivalent. Required in Commerce (sophomore year) and in Commerce Vocational Curriculum

* Less than 9 credits in Stenography or 6 credits in Typing will not be counted toward the bachelor's degree in Commerce. Students in other schools may offer less as elective work.

(second year); first or second term; 5 credits; 5 recitations; 5 hours home work; 5 one-hour laboratory periods. Fee \$2.00. Texts: Gregg Speed Studies. Gregg Writer.

OT 202. ***Applied Stenography and Typing.** Advanced dictation, legal forms, newspaper and magazine articles. Court and convention reporting introduced. Sections for Gregg and Pitman students.

Prerequisite: OT 201 or equivalent. Required in Commerce (sophomore year) and in Commerce Vocational Curriculum (second year); second or third term; 5 credits; 5 recitations; 5 hours home work; 5 laboratory periods. Fee \$2.00. Texts: Eldridge Dictation Exercises. Expert Speed Course.

OT 203. **Office Training for Stenographers.** Training course in advanced dictation, stenographic practice, and office procedure. Practice is provided in the preparation of bills, specifications, legal documents, and filing of correspondence. Study and use of modern office appliances, such as mimeograph, dictaphone, mimeoscope, hectograph, and bookkeeping machines.

Prerequisite: OT 202 or equivalent. Required in Commerce (sophomore year) and in Commerce Vocational Curriculum (second year); any term; 5 credits; 2 lectures; 4 two-hour laboratory periods. Fee \$2.00.

OT 251. **Office Methods and Appliances.** Designed for Commerce students not taking stenography. Study and use of modern office appliances such as mimeoscope, mimeograph, multigraph, addressing machines, dictaphones, calculating and bookkeeping devices. Filing and office routing.

Prerequisite: OT 113. Required in Commerce (sophomore year) and in Commerce Vocational Curriculum (second year); first term; 2 credits; 1 one-hour lecture and 4 one-hour laboratory periods; 1 hour home assignment. Fee \$2.00.

OT 252. **Office Methods and Appliances.** Continuation of OT 251. Practice and principles of scientific office management covering organization, arrangement, and operation, with special consideration of the employment, training, and payment of office workers. Study and drill in office efficiency problems and business ethics.

Prerequisite: OT 251. Required in Commerce (sophomore year) and in Commerce Vocational Curriculum (second year); second term; 2 credits; 1 lecture; 4 one-hour laboratory periods. Fee \$2.00. Text: Galloway, Office Management.

* Less than 9 credits in Stenography or 6 credits in Typing will not be counted toward the bachelor's degree in Commerce. Students in other schools may offer less as elective work.

OT 253. Office Methods and Appliances. Continuation of OT 252. Required in Commerce (sophomore year) and in Commerce Vocational Curriculum (second year); third term; 2 credits; 1 lecture; 4 one-hour laboratory periods. Fee \$2.00.

OT 261. Expert Typing. Designed to give expert finger training. Emphasis on artistic typing and rapid tabulating, billing, and manifoldng, with absolute accuracy. A speed of sixty-five words a minute is required. Proficiency certificates for speed and accuracy will be granted.

Prerequisite: OT 113. Elective, primarily for other than Commerce students; sophomore year; first or third term; 2 credits; 5 laboratory hours; 1 hour home assignment. Fee \$2.00. Text: Rational Typewriting.

OT 301. Commercial Secretaries. Private secretary defined; learning the position; managing callers; handling correspondence; outlines and reports; sources of information; editing and proof reading; appointments; diaries and accounts; ethics; systematizing the office.

Prerequisite: OT 203. Elective in Commerce; junior year; any term; 3 credits; 1 lecture; 4 one-hour laboratory periods. Fee \$2.00. Text: Kilduff, Private Secretary.

OT 302. Secretarial Practice. Continuation of OT 301.

Elective in Commerce; junior year; any term; 6 hours a week actual practice in College administrative offices; 2 credits.

OT 401. Reporters' Course. Designed for those having completed OT 203 and desiring to specialize in court or convention reporting.

Elective; junior or senior year; first term; 3 credits; 2 recitations; 3 one-hour laboratory periods. Fee \$1.00.

OT 402. Reporters' Course. A continuation of OT 401.

Elective; junior or senior year; second term; 3 credits; 2 recitations; 3 one-hour laboratory periods. Fee \$1.00.

OT 403. Reporters' Course. A continuation of OT 402. Verbatim reporting of addresses, lectures, and talks given on the campus. Accurate transcripts to be made.

Elective; junior or senior year; third term; 3 credits; 2 recitations; 3 one-hour laboratory periods. Fee \$1.00.

POLITICAL SCIENCE

In the courses in Political Science proper the department seeks to instruct in the basic general principles of all government, the construction and operation of modern governments, with particular

attention to that of the United States, and the rules and principles which regulate the relations of governments to each other. The courses are planned with the purpose of equipping students for an intelligent participation in governmental affairs. The work culminates in the courses in Advanced American Government and Practical Legislation, designed to instruct in the fundamentals of law-making. The work assumes that, as citizens, our students will take a dynamic part in the various activities of government, including law-making.

In the Business Law courses the department endeavors to train students for practical business affairs, particularly to give the legal information necessary to prevent the common business errors. Special attention is given to industrial and rural problems. In order to acquaint the student with the rudiments of court procedure, a practical case is tried by the class, the students performing all the parts.

For outline of courses in Political Science in the School of Commerce, consult page 196.

COLLEGIATE COURSES

PS 163. Business and Rural Law. A short course in the laws of business, covering briefly much the same field as PS 201 and PS 202, but applied particularly to the special needs of students. Work for Pharmacy students gives emphasis to strictly business law. Work for Agriculture students stresses farm law. Recitations and discussions.

Required in Pharmacy, Farm Management, Animal Husbandry, and Landscape Gardening; elective to others except Commerce; third term; 3 credits; 3 recitations. Text: Huffcut, Elements of Business Law.

U. G. Dubach, R. R. Hewitt

PS 201. Advanced Business Law. (a) Contracts in General. Requisites, formation, interpretation, and remedies for breach of contracts. (b) Sales of Personal Property. Passage of title, warranties and remedies. Note: Credit will not be given for PS 201 without PS 202 except on special permission from the department.

Required in Commerce and Forestry; elective to others; sophomore year; first or second term; 4 credits; 4 recitations. Texts: Spencer, Manual of Commercial Law. Bays, Cases on Commercial Law.

U. G. Dubach, R. R. Hewitt

PS 202. Advanced Business Law. Continuation of PS 201. (c) Negotiable Instruments. Requisites of contract assignment and negotiation. Liability of maker, drawer, acceptor, and indorser. Proceedings to protect rights of parties. (d) Agency. Appointment

powers and responsibilities of agents. (e) Partnership and Corporation. Comparison of methods of formation, dissolution, and powers and liabilities of members. (f) Property Classes. Title, abstracts, mortgages, and leases. The case method is used throughout the entire course. Lectures, reports, and discussions.

Required in Commerce and Forestry; elective to others, sophomore year; second or third term; 4 credits; 4 recitations. Texts: Spencer, Manual of Commercial Law. Bays, Cases on Commercial Law. *U. G. Dubach, R. R. Hewitt*

PS 301. National Government. Consideration of the organization, functions, and present-day problems of the American Federal Government.

Required in Commerce and Mines; elective in other curricula; any term; 3 credits; 3 recitations. Text: Munro, Government of the United States. *U. G. Dubach, F. A. Magruder*

PS 302. State and Local Government. Consideration of the organization, functions, and present-day problems of state, county, and township government in the United States. The government of Oregon receives special attention.

Required in Commerce and Mines; elective to others; junior or senior year; second term; 3 credits; 3 recitations. Text: Munro, Government of the United States. *U. G. Dubach, F. A. Magruder*

PS 303. Municipal Government. Consideration of the organization, functions, and present-day problems of city and town government. The cities of the Northwest receive special attention.

Required in Commerce; elective to others; junior or senior year; third term; 3 credits; 3 recitations. *F. A. Magruder*

PS 401. International Relations. America as a World Power and her relation to contemporary political, social, and economic world events; races, languages, religions, and types of government in Europe and the Near East; Great Britain and her imperial problems; fundamental principles of international law and proposed plans for preserving international peace; partition of Africa; the Chinese Republic; Japanese expansion; Oriental problem on the Pacific Coast; our relations with Canada and with Mexico; the Caribbeans as an American problem; our interest and opportunities in South America; American ideals. Lectures, discussions, and tests.

Required in Commerce; elective to others; senior year; second or third term; 4 credits; 4 recitations. *F. A. Magruder*

PS 402. Comparative Governments. A critical study of the governments of the principal countries of Europe, with emphasis

on modern movements and features of government that are problems in the United States at present. Lectures, reports, and discussions.

Elective; senior year; first term; 3 credits; 3 recitations.

F. A. Magruder

PS 403. Comparative Governments. Continuation of PS 402, covering governments of Canada and the countries of Latin America. Lectures, reports, and discussions.

Elective; senior year; 3 credits; 3 recitations.

U. G. Dubach

PS 411. Advanced American Government. Supplementary to PS 301, 302, and 303, giving chief attention to the interpretation of Federal and state constitutions, and the relation of legislation to the constitutions. Court reports are used liberally to show the interpretation of the rights of the people guaranteed in the constitutions and of the powers granted to the government by these instruments.

Prerequisite: PS 301. Elective; junior or senior year; first term; 4 credits; 4 recitations. Text: Hall, Constitutional Law.

U. G. Dubach

PS 412. Practical Legislation. Instruction in practical bill drafting; attention given to correct form, and expression of desired content of bills; emphasis on the necessity of preparing laws with reference to prior legislation and court decisions; emphasis on rural and industrial legislation.

Prerequisite: PS 411. Elective; junior or senior year; second term; 4 credits; 4 recitations. Text: Jones, Statute Law Making in the United States.

U. G. Dubach

PS 601. Business Law. Class work same as PS 201 with special research work required in addition.

For graduate students other than Commerce; first term; 4 credits; 4 recitations.

U. G. Dubach, R. R. Hewitt

PS 602. Business Law. Class work same as PS 302; special research work required in addition.

For graduate students other than Commerce; second term; 4 credits; 4 recitations.

U. G. Dubach, R. R. Hewitt

VOCATIONAL COURSES

(Credits in vocational courses are non-collegiate.)

PS 13. American Civil Government. Consideration of national, state, county, and city government in the United States.

Required in Commerce Vocational Curriculum; first year; third term; 3 credits; 4 recitations. Text: Magruder, American Government.

R. R. Hewitt

PS 23. **Business Law.** General principles of contracts, sales, negotiable instruments, bailments, agency, partnership, corporations, and property. (Not given in 1922-23.)

Required in Commerce Vocational Curriculum (second year) and in Mechanic Arts Vocational Curriculum; third term; 3 credits; 3 recitations. Text: Huffcut, Elements of Business Law.

R. R. Hewitt

School of Engineering and Mechanic Arts

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.

GRANT ADELBERT COVELL, M.E., Dean of the School of Engineering and
Mechanic Arts; Professor of Mechanical Engineering.

LILLIAN LALONDE, Secretary to the Dean.

Civil Engineering

STUART HOBBS SIMS, B.Sc., Professor of Civil Engineering.

HARRY STANLEY ROGERS, B.Sc. in C.E., Professor of Hydraulics and
Irrigation Engineering.

SAMUEL MICHAEL PATRICK DOLAN, C.E., Associate Professor of Civil
Engineering.

DEXTER RALPH SMITH, B.Sc., Assistant Professor of Civil Engineering.

BURDETTE GLENN, B.Sc., Instructor in Civil Engineering.

LESLIE BRIGHAM, B.Sc., Instructor in Civil Engineering.

GLENN WILLIS HOLCOMB, B.Sc., Instructor in Civil Engineering.

EMORY DOUGLAS ROBERTS, Instructor in Civil Engineering.

EDER CHARLES MATTHEWS, B.Sc., Instructor in Civil Engineering.

CHARLES ARTHUR MOCKMORE, B.Sc., Instructor in Civil Engineering.

Electrical Engineering

RICHARD HAROLD DEARBORN, A.B., M.E., Professor of Electrical Engi-
neering.

LAWRENCE FISHER WOOSTER, B.Sc. in E.E., Professor of Applied Elec-
tricity.

FRED ORVILLE McMILLAN, M.S., Assistant Professor of Electrical
Engineering.

JOHN HARRISON BELKNAP, B.Sc., Assistant Professor of Electrical
Engineering.

BENJAMIN BURTON BESSESEN, B.Sc., Instructor in Electrical Engineer-
ing.

HAROLD COCKERLINE, B.Sc., Instructor in Electrical Engineering.

BENJAMIN HODGE NICHOLS, B.Sc., Fellow in Electrical Engineering.

Highway Engineering

GORDON VERNON SKELTON, C.E., Professor of Highway Engineering.

Industrial Arts

HENRY CLAY BRANDON, A.M., Professor of Industrial Arts; Director
of Shops.

AMBROSE ELLIOTT RIDENOUR, B.Sc., Instructor in Foundry Practice.

MARTIN LOUIS GRANNING, Instructor in Auto Mechanics.

GLENN HARTMAN HILL, Instructor in Machine Shop.

DARWIN GREENE THAYER, B.Sc., Instructor in Pattermaking and Carpentry.

WILLIAM HAMILTON HORNING, Instructor in Forging.

DELOS FERGUSON, Instructor in Automotive Laboratory.

Mechanical Engineering

GRANT ADELBERT COVELL, M.E., Professor of Mechanical Engineering.

WALLACE HOPE MARTIN, M.E., Professor of Heat Engineering.

MARK CLYDE PHILLIPS, B.M.E., Associate Professor of Mechanical Engineering; Superintendent of Heating.

JOHN RANDOLPH DU PRIEST, B.Sc., M.E., M.M.E., Associate Professor of Mechanical Engineering.

RAY BOALS, B.Sc., Assistant Professor of Mechanical Engineering.

MORRIS WENK, A.B., E.E., Assistant Professor of Mechanical Engineering.

STANLEY ROBINSON CUMMINGS, S.B., S.M., Assistant Professor of Mechanical Engineering.

HARRY WILLIAM EMIL BUKOWSKY, B.Sc., Instructor in Mechanical Engineering.

JOHN CLINTON ELLIS, B.Sc., Instructor in Mechanical Engineering.

ALFRED CLINTON HARWOOD, Mechanician, Engineering Laboratory.

Mechanics and Materials

SAMUEL HERMAN GRAF, M.S., Professor of Mechanics and Materials.

CHARLES EDWIN THOMAS, M.E., Assistant Professor of Mechanics and Materials.

IVAN FREDERICK WATERMAN, C.E., Assistant Professor of Mechanics and Materials.

JAMES CAREY OTHUS, M.E., Instructor in Mechanics and Materials.

*Basic Arts and Sciences**

M. ELLWOOD SMITH, Ph.D., Dean of the School of Basic Arts and Sciences; Director of Summer Session.

FREDERICK BERCHTOLD, A.M., Professor of English Language and Literature.

JOHN B. HORNER, A.M., Litt.D., Professor of History.

LOUIS BACH, A.M., Professor of Modern Languages.

JOHN FULTON, M.S., Professor of Chemistry.

CHARLES LESLIE JOHNSON, B.Sc., Professor of Mathematics.

* Here are listed members of other faculties giving instruction open to students in Engineering.

FARLEY DOTY McLOUTH, B.Sc., Professor of Art.
WILLIBALD WENIGER, Ph.D., Professor of Physics.
WILLIAM BALLANTYNE ANDERSON, Ph.D., Professor of Physics.
CHARLES BUREN MITCHELL, A.M., Professor of Public Speaking.
EDWARD BENJAMIN BEATY, B.Sc., M.A., Associate Professor of Mathematics.
WILLIAM HENRY ELLISON, Ph.D., Associate Professor of History.
WALTER SCOTT, Ph.D., Associate Professor of Chemistry.
NICHOLAS TARTAR, B.Sc., Assistant Professor of Mathematics.
HARRY LINDEN BEARD, B.Sc., Assistant Professor of Mathematics.
GEORGE REUBEN VARNEY, A.B., D.D., Assistant Professor of Public Speaking.
FRED JOHN ALLEN, M.S., Instructor in Chemistry.
SHARON OSBORNE BROWN, A.B., Instructor in English.
HARRY DRILL, A.B., Instructor in Physics.
JOHN ALBERT VAN GROOS, M.S., Instructor in Mathematics.
ROBERT WAYNE UPHOFF, A.B., Instructor in Physics.
ALBERT WASHINGTON MARKER, A.B., Instructor in Physics.
OSMAN HORACE CADY, M.S., Instructor in Chemistry.
JACOB JORDAN, A.M., Instructor in Physics.
FRED BUCHNER MORGAN, A.B., B.Sc., Instructor in Physics.
MAUDE TURLAY PARR, Gr.M., Instructor in Physics.
ABRAHAM SCHWARTZ, B.Sc., Instructor in Chemistry.
FREDERICK DEAN MOORE, A.B., Instructor in English.
MARY LOUISE PRICE, M.S., Instructor in Chemistry.
HUGH SILBAUGH, B.Sc., Instructor in English.
CLARK HARRIS SLOVER, M.A., Instructor in English.
HARRY HOWARD TUCKER, B.A., Instructor in English.
EARL WELLS, A.B., Instructor in Public Speaking.

*Other Schools and Departments**

JOHN ANDREW BEXELL, A.M., Dean of the School of Commerce.
EDWIN DEVORE RESSLER, A.M., Dean of the School of Vocational Education.
GEORGE WILLIAMS MOSES, Colonel, Cavalry, United States Army, Professor of Military Science and Tactics; Commandant of Cadets.
ULYSSES GRANT DUBACH, Ph.D., Professor of Government and Business Law.
WILBUR LOUIS POWERS, M.S., Professor of Soils.
FRANK HENRY SHEPHERD, A.M., Professor of Industrial Education.
JESSE FRANKLIN BRUMBAUGH, A.M., LL.B., Professor of Psychology.

* Here are listed members of other faculties giving instruction open to students in Engineering.

FRANCES LAWRENCE SNOW, Professor of Industrial Journalism.

RICHARD BURR RUTHERFORD, A.B., Professor of Physical Education for Men.

LUCY MAY LEWIS, A.B., B.L.S., Librarian.

HAROLD STEPHENSON NEWINS, M.F., Professor of Forestry.

NEWEL HOWLAND COMISH, M.S., Professor of Economics.

DOUGLAS CLERMONT LIVINGSTON, B.Sc., Professor of Geology.

FRANK ABBOTT MAGRUDER, Ph.D., Associate Professor of Government and Business Law.

EDWARD FRITCHOFF TORGERSOHN, B.Sc., Assistant Professor of Soils.

WILLIAM HENRY DREESEN, Ph.D., Assistant Professor of Economics and Sociology.

AMBROSE REUBEN NICHOLS, B.Sc., Instructor in Industrial Education.

Admission. Detailed statements of entrance requirements, routine of registration, etc., are given in the special bulletin on "General Information," which is furnished on application. Requirements for admission to the various curricula of the School of Engineering and Mechanic Arts are as follows:

Degree curricula: Applicants for admission to the curricula leading to the baccalaureate degree must be at least 16 years of age and must have completed 15 units of work in a secondary school recognized as standard, these units to include (a) at least 3 units of English, 1 unit each of Elementary Algebra and Plane Geometry, and $\frac{1}{2}$ unit of Higher Algebra; together with (b) $5\frac{1}{2}$ additional units to be selected without restriction from among the following subjects: English, Mathematics, Foreign Languages, Laboratory Science, and History (including Civics); and (c) enough additional units selected from subjects credited toward graduation by standard high schools of Oregon to make a total of 15 units. It is strongly urged that students planning to enter any curriculum in Engineering take one year's work in Physics while in high school.

Graduate curricula: Applicants for admission to advanced courses leading to the degree of C.E., E.E., or M.E., must have completed the requirements for the bachelor's degree in the corresponding curriculum in the Oregon Agricultural College or other college of equal rank.

Vocational Curriculum: Applicants must be at least 18 years of age and have completed a common school course or its equivalent. Applicants over 21 years of age who have not completed a common

school course may be admitted upon proof that they are able to carry the work that they may desire to take.

Requirements for Graduation. In each of the four baccalaureate degree curricula offered in the School of Engineering, 207 college credits are required, of which 192 are to be academic credits, 12 are to be credits in military drill, and 3 are to be credits in physical education.

Baccalaureate Degrees. Four-year curricula leading to the degree of Bachelor of Science are offered in the School of Engineering as follows:

A curriculum in Civil Engineering, with senior options in Civil Engineering, Highway Engineering, Irrigation Engineering, and Structural Engineering.

A curriculum in Electrical Engineering.

A curriculum in Industrial Arts.

A curriculum in Mechanical Engineering.

Advanced Degrees. The professional degree of Civil Engineer, Electrical Engineer, or Mechanical Engineer, is offered to graduates of the College, or other colleges of equal rank, who have attained the degree of Bachelor of Science in the corresponding engineering curriculum, and met the College requirements for graduate study. See the section on "General Information," pages 68-70. These requirements specify one full year of resident work amounting to 48 college credits, including an acceptable thesis.

Vocational Curriculum. A one-year vocational curriculum in Mechanic Arts is offered. The purpose of this curriculum is to assist those who expect to make their way in the world by their manual skill in some line of industrial activity, and who, though unable to take the degree curriculum of the College, desire vocational training in special lines and at the same time the broadening influence of education in English, mathematics, and elementary science.

The shops are equipped with the latest approved machinery suited to carry on these practical courses.

A student who has completed one year of work as outlined on page 235 is entitled to a certificate. Eighteen credits must be in one of the following subjects: Woodworking (Patternmaking, Carpentry, or Cabinetmaking), Machine Shop Practice, Blacksmithing, Foundry Practice, Auto Mechanics.

Graduate Short Course in Highway Engineering. During the second term each year this Short Course in Highway Engineering is given by the department of Highway Engineering in cooperation

with the departments of Civil Engineering and Mechanics and Materials, and is intended for graduate engineers who wish to specialize in some line of highway work, or for others properly prepared. The purpose of the Short Course is to review the principles and current practice of Highway Engineering.

The various courses are complete in themselves and any one course may be taken without the others if the applicant's preparation is suitable for that course. Instruction will be given by means of lectures, assigned reading, and laboratory practice. Special lectures by non-resident engineers will be provided where possible. No classes will be formed unless a sufficient number of students apply. Classes are not arranged for not more than 16 credits a week.

Those intending to take the Short Course should write Professor Skelton in advance.

The courses offered, with number of periods a week, are as follows: Road Design (2), Construction of Roads (3), Highway Bridges (3), Highway Laboratory (3), Street Design and Construction (3), Reinforced Concrete Highway Structures (3), Contracts and Specifications (3), Hydraulics of Highway Drainage and Construction (1).

DEGREE CURRICULUM IN CIVIL ENGINEERING

| Freshman Year | | Term | | |
|--|------------------|------------------|------------------|--|
| | 1st | 2d | 3d | |
| Engineering Drawing (CE 111, 112, 113)..... | 3 | 3 | 3 | |
| Plane Surveying (CE 121, 122, 123)..... | 5 | 4 | 5 | |
| Engineering Physics (Ph 111, 112, 113)..... | 3 | 3 | 3 | |
| Trigonometry (Mth 111), Elementary Analysis (Mth 131, 132) | 4 | 4 | 4 | |
| Freshman Engineering (CE 101, 102, 103)..... | --- | 1* | --- | |
| Gymnasium (PEm 111, 112, 113)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ | |
| Military Science and Tactics..... | 2 | 2 | 2 | |
| | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | |
| Sophomore Year | | | | |
| Differential and Integral Calculus (Mth 251, 252, 253) | 4 | 4 | 4 | |
| General Chemistry (Ch 101, 102, 103)..... | 3 | 3 | 3 | |
| Practical Public Speaking (PSP 254) | --- | 3 | --- | |
| Curves and Earthwork (CE 231)..... | 5 | --- | --- | |
| Engineering Location (CE 232)..... | --- | 2 | --- | |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 | |
| Steam and Gas Machinery (ME 233) | --- | --- | 5 | |
| Gymnasium (PEm 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ | |
| Military Science and Tactics..... | 2 | 2 | 2 | |
| | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | |

* For CE 101, 102, 103, which run through all three terms, one-third credit is given each term.

Junior Year

| | 1st | Term 2d | 3d |
|--|-------|------------|-------|
| Mechanics (MM 361, 362) | 4 | ..... | 4 |
| Strength of Materials (MM 353)..... | ..... | 3 | ..... |
| Materials of Engineering (MM 311)..... | ..... | 3 | ..... |
| Hydrology (CE 341), Hydraulics (CE 342, 343) | 3 | 3 | 3 |
| Masonry and Foundations (CE 372)..... | ..... | 3 | ..... |
| Structural Analysis (CE 381)..... | ..... | ..... | 5 |
| Roads and Pavements (HE 313)..... | 5 | ..... | ..... |
| Introduction to Economics (ES 391)..... | 3 | ..... | ..... |
| Principles of Accounting (BA 385) ..... | ..... | 3 | ..... |
| Business Organization and Management (BA 381)..... | ..... | ..... | 3 |
| Electives | 2 | 2 | 2 |

Senior Year

| | | | |
|---|-------|-------|-------|
| | 17 | 17 | 17 |
| General Geology (G 301a) | 3 | ..... | ..... |
| Structural Engineering (CE 482, 483, 484) | 4 | 5 | 5 |
| Seminar (CE 491, 492, 493) | 1 | 1 | 1 |
| Reinforced Concrete (CE 471) ..... | ..... | 5 | ..... |
| Structural Laboratory (MM 427) ..... | ..... | 3 | ..... |
| Reclamation Engineering (CE 461) ..... | ..... | ..... | 4 |
| Hydraulic Machinery (CE 441) | 4 | ..... | ..... |
| Railroad Engineering (CE 433) | 3 | ..... | ..... |
| Electricity for Civil Engineers (EE 255) ..... | ..... | ..... | 5 |
| Electives | 2 | 3 | 2 |

Senior Year

17 17 17

(Highway Engineering Option)

| | | | |
|---|-------|-------|-------|
| ①Introduction to Economics (ES 391) ..... | ..... | 3 | ..... |
| ①Industrial Organization and Management (BA 381)..... | ..... | ..... | 3 |
| Structural Engineering (CE 482, 483, 484) | 4 | 5 | 4 |
| Contracts and Specifications (HE 427) ..... | ..... | ..... | 3 |
| Highway Engineering (HE 411, 412, 413) | 4 | 3 | 4 |
| Highway Materials Laboratory (MM 426) ..... | ..... | 3 | ..... |
| Economics of Highway Construction (HE 416) | 3 | ..... | ..... |
| Reinforced Concrete (CE 472) | 3 | ..... | ..... |
| Seminar (CE 494, 495, 496) | 1 | 1 | 1 |
| Electives | 2 | 2 | 2 |
| | 17 | 17 | 17 |

DEGREE CURRICULUM IN ELECTRICAL ENGINEERING**Freshman Year**

| | 1st | Term 2d | 3d |
|--|--------|------------|-------|
| Elements of Electricity (EE 101, 102, 103)..... | 3 | 3 | 3 |
| Plane Trigonometry (Mth 111), Elementary Analysis (Mth 131, 132) | 4 | 4 | 4 |
| Engineering Physics (Ph 111, 112, 113)..... | 3 | 3 | 3 |
| Library Practice (Lib 100)..... | 1 | ..... | ..... |
| Engineering Survey (ME 101, 102)..... | ..... | 1/2 | 1/2 |
| Mechanical Drawing (ME 111, 112) or (ME 112, 114).... | 2 | 2 | ..... |
| Descriptive Geometry (ME 113)..... | ..... | ..... | 3 |
| Patternmaking (IA 212), Blacksmithing (IA 152), Machine Shop (IA 262) | 2 | 2 | 2 |
| Gymnasium (PEm 111, 112, 113)..... | 1/2 | 1/2 | 1/2 |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | 17 1/2 | 17 | 18 |

①These courses to be given in junior year after 1921-22.

| Sophomore Year | | | |
|---|---------------|---------------|---------------|
| | 1st | Term 2d | 3d |
| Introduction to Electrical Engineering (EE 201, 202, 203) | 3 | 3 | 3 |
| Differential, Integral Calculus (Mth 251, 252, 253) .. | 4 | 4 | 4 |
| General Chemistry (Ch 101, 102, 103) | 3 | 3 | 3 |
| English Composition (Eng 101, 102, 103) | 3 | 3 | 3 |
| Machine Shop (IA 263) | 2 | --- | --- |
| Plane Surveying (CE 124, 127) | --- | 2 | 2 |
| Gymnasium (PEm 211, 212, 213) | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 2 | 2 | 2 |

| Junior Year | | | |
|---|-----|-----|-----|
| | 17½ | 17½ | 17½ |
| Electrical Engineering (EE 301, 302, 303) | 3 | 3 | 3 |
| Electrical Laboratory (EE 321, 322, 323) | 3 | 3 | 3 |
| Mechanics (MM 351, 352) | 3 | 3 | --- |
| Strength of Materials (MM 353) | --- | --- | 3 |
| Steam Machinery (ME 331) | 3 | --- | --- |
| Steam Turbines (ME 332) | --- | 3 | --- |
| Steam Power Plants (ME 333) | --- | --- | 3 |
| Materials of Engineering (MM 311) | 3 | --- | --- |
| Hydraulics (CE 344) | --- | 3 | --- |
| Hydraulic Power Plants (CE 346) | --- | --- | 3 |
| Electives | 2 | 2 | 2 |

| Senior Year | | | |
|---|-----|-----|-----|
| | 17 | 17 | 17 |
| Electrical Engineering (EE 401, 402, 403) | 4 | 4 | 4 |
| Electrical Laboratory (EE 421, 422) | 3 | 3 | --- |
| Electric Lighting (EE 431) | 2 | --- | --- |
| Electrical Railways (EE 432) | --- | 2 | --- |
| Electrical Signaling (EE 433) | --- | --- | 2 |
| Introduction to Economics (ES 391) | 3 | --- | --- |
| Industrial Organization and Management (BA 381) | --- | 3 | --- |
| National Government (PS 301), or State and Local Government (PS 302) | --- | --- | 3 |
| Trusses and Towers (CE 489) | 3 | --- | --- |
| Practical Public Speaking (PSp 254) | --- | --- | 3 |
| High Voltage Engineering (EE 453), Railway Electrification (EE 443), or Thesis (EE 491) | --- | --- | 3 |
| Electives | 2 | 5 | 2 |
| | 17 | 17 | 17 |

DEGREE CURRICULUM IN INDUSTRIAL ARTS

| Freshman Year | | | |
|---|---------------|---------------|---------------|
| Shop Drawing (IA 191, 192, 193) | 2 | 2 | 2 |
| Manual Training (IA 111, 112, 113) | 3 | 3 | 3 |
| General Chemistry (Ch 101, 102, 103) | 3 | 3 | 3 |
| English Composition (Eng 101, 102, 103) | 3 | 3 | 3 |
| Commercial Geography (ES 101) | 4 | --- | --- |
| Plane Trigonometry (Mth 111) | --- | 4 | --- |
| Gymnasium (PEM 111, 112, 113) | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 2 | 2 | 2 |
| Approved electives | --- | --- | 4 |
| | 17½ | 17½ | 17½ |

Sophomore Year

| | 1st | Term 2d | 3d |
|--|------------------------|------------------------|------------------------|
| Ind. Arts Drawing (A 211), Ind. Arts Design (A 221) | 2 | 2 | --- |
| Patternmaking (IA 213) | 3 | --- | --- |
| European History I (Hst 212), European History II (Hst 213), Recent History of the United States (Hst 126) | 3 | 3 | 3 |
| Engineering Physics (Ph 111, 112, 113) | 3 | 3 | 3 |
| Mill Work and Veneering (IA 223) | --- | 3 | --- |
| Carpentry (IA 222) | --- | --- | 3 |
| Gymnasium (PEm 111, 112, 113) | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 2 | 2 | 2 |
| Approved electives | 4 | 4 | 6 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Junior Year

| | | | |
|------------------------------------|----------|----------|----------|
| Tool Making and Tempering (IA 254) | --- | --- | 2 |
| Forging (IA 351) | 3 | --- | --- |
| Elementary Psychology (Psy 301) | 3 | --- | --- |
| Mechanical Drawing (ME 111, 112) | 2 | 2 | --- |
| Descriptive Geometry (ME 113) | --- | --- | 3 |
| Hammered Metal Work (IA 352) | --- | 3 | --- |
| Introduction to Education (Ed 302) | --- | 3 | --- |
| Foundry (IA 242) | 3 | --- | --- |
| Wood Turning (IA 333) | --- | 2 | --- |
| Educational Psychology (Psy 322) | --- | --- | 3 |
| Commercial Woods (F 334) | --- | --- | 3 |
| Approved electives | 6 | 7 | 6 |
| | <hr/> 17 | <hr/> 17 | <hr/> 17 |

Senior Year

| | | | |
|--|----------|----------|----------|
| Machine Shop (IA 461, 462) | 3 | 3 | --- |
| Introduction to Economics (ES 391) | 3 | --- | --- |
| Special Methods in Manual Training (IEd 343) | 4 | --- | --- |
| Materials of Engineering (MM 311) | 3 | --- | --- |
| Advanced Mechanical Drawing (ME 315) | --- | 3 | --- |
| Business Organization and Management (BA 381) | --- | 3 | --- |
| Vocational Education (Ed 323) | --- | 2 | --- |
| Hydraulics (CE 345) | --- | 3 | --- |
| Auto Mechanics (IA 182) | --- | --- | 3 |
| National Government (PS 301) or State and Local Government (PS 302) | --- | --- | 3 |
| Supervised Teaching in Trades and Industries (IEd 421) | --- | --- | 5 |
| Theory and Practice of Elementary Manual Arts (IEd 382) | --- | --- | 3 |
| Electives | 4 | 3 | 3 |
| | <hr/> 17 | <hr/> 17 | <hr/> 17 |

DEGREE CURRICULUM IN MECHANICAL ENGINEERING

Freshman Year

| | 1st | Term 2d | 3d |
|---|------------------|---------------|---------------|
| English Composition (Eng 101, 102, 103) | 3 | 3 | 3 |
| Plane Trigonometry (Mth 111) | 4 | ..... | ..... |
| Elementary Analysis (Mth 131, 132) ..... | ..... | 4 | 4 |
| General Chemistry (Ch 101, 102, 103) | 3 | 3 | 3 |
| Linear Drawing and Lettering (ME 111) | 2 | ..... | ..... |
| Elementary Mechanical Drawing (ME 112) ..... | ..... | 2 | ..... |
| Mechanical Drawing (ME 114) ..... | ..... | ..... | 2 |
| Patternmaking (IA 212) | 2 | ..... | ..... |
| Foundry Practice (IA 141) ..... | ..... | 2 | ..... |
| Blacksmithing (IA 152) ..... | ..... | ..... | 2 |
| Library Practice (Lib 100) | 1 | ..... | ..... |
| Engineering Survey (ME 102, 103) ..... | ..... | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Gymnasium (PEM 111, 112, 113) | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 2 | 2 | 2 |
| | 17 $\frac{1}{2}$ | 17 | 17 |

Sophomore Year

| | | | |
|--|------------------|------------------|------------------|
| Differential Calculus (Mth 251) | 4 | ..... | ..... |
| Integral Calculus (Mth 252, 253) ..... | ..... | 4 | 4 |
| Engineering Physics (Ph 111, 112, 113) | 3 | 3 | 3 |
| ①Elements of Heat Engineering (ME 221) | 3 | ..... | ..... |
| Steam Engines (ME 222) ..... | ..... | 3 | ..... |
| Gas Engines (ME 223) ..... | ..... | ..... | 3 |
| Descriptive Geometry (ME 211) | 2 | ..... | ..... |
| Machine Drawing (ME 212) ..... | ..... | 2 | ..... |
| Mechanism (ME 213) ..... | ..... | ..... | 3 |
| Plane Surveying (CE 226) | 3 | ..... | ..... |
| Toolmaking and Tempering (IA 254) ..... | ..... | 1 | ..... |
| Machine Shop (IA 262, 263) ..... | ..... | 2 | 2 |
| Gymnasium (PEM 211, 212, 213) | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 2 | 2 | 2 |
| | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ |

Junior Year

| | | | |
|---|-------|-------|-------|
| Introduction to Economics (ES 391) | 3 | ..... | ..... |
| Business Organization and Management (BA 381) ..... | ..... | 3 | ..... |
| National Government (PS 301) ..... | ..... | ..... | 3 |
| Mechanics (MM 351, 352) | 3 | 3 | ..... |
| Strength of Materials (MM 353) ..... | ..... | ..... | 3 |
| Hydraulics (CE 345) | 3 | ..... | ..... |
| Hydraulic Machinery (CE 347) ..... | ..... | 3 | ..... |
| Materials of Engineering (MM 312) ..... | ..... | ..... | 4 |
| ②Steam Turbines (ME 323) ..... | ..... | ..... | 3 |
| ③Heat Engineering (ME 321, 322) | 3 | 3 | ..... |
| Structural Analysis (CE 387) ..... | ..... | ..... | 2 |
| ④Technical Electricity (EE 251) | 3 | ..... | ..... |
| ④Electrical Machinery (EE 252) ..... | ..... | 3 | ..... |
| Electives | 3 | 2 | 2 |
| | 18 | 17 | 17 |

①Note: During 1922-23 students will take English courses; English 101, 102, and 103, instead of ME 221, 222, 223.

②First term in 1922-23; English 103 in third term.

③In 1922-23 students will take English 101, 102 instead.

④Not required in 1922-23; students take ME 421 and ME 323 instead.

Senior Year

| | 1st | Term | |
|---|-------|-------|-------|
| | | 2d | 3d |
| Engineering Laboratory (ME 451, 452, 453) | 3 | 3 | 3 |
| Wood and Steel Structures (CE 488) | 3 | ..... | ..... |
| Reinforced Concrete and Foundation Design (CE 473) ..... | ..... | 3 | ..... |
| Contracts and Specifications (HE 427) ..... | ..... | ..... | 3 |
| Heating and Ventilating (ME 461) or Gas Engineering (ME 421) | 3 | ..... | ..... |
| Power Plant Engineering (ME 432, 433) ..... | ..... | 3 | 3 |
| Power Plant Design (ME 442, 443) ..... | ..... | 2 | 2 |
| Seminar (ME 483) ..... | ..... | ..... | 2 |
| Technical Journalism (IJ 330) or Practical Public Speaking (PSP 254) | 3 | ..... | ..... |
| ① Machine Design (ME 411, 412, 413) | 3 | 4 | 2 |
| Electives | 2 | 2 | 2 |
| | 17 | 17 | 17 |

VOCATIONAL CURRICULUM IN MECHANIC ARTS

(See pages 222, 256-259)

| | 1st | Term | |
|---|------------------|------------------|------------------|
| | | 2d | 3d |
| Shop work according to trade selected | 6 | 6 | 6 |
| Vocational Drawing (ME 11, 12, 13) | 2 | 2 | 2 |
| Algebra (Mth 21) | 4 | ..... | ..... |
| Plane Geometry (Mth 81 or 82) ..... | ..... | 4 | ..... |
| Shop Arithmetic (Mth 94) ..... | ..... | ..... | 4 |
| English or other approved electives | 3 | 3 | 3 |
| Gymnasium (PEm 11, 12, 13) | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 2 | 2 | 2 |
| | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ |

Courses in degree curricula are designated by numbers of three digits in which the left-hand digit represents usually the year (as first, second, third, etc.) in which the course is normally pursued; the middle digit represents the group of related courses in the department to which the course belongs; and the right-hand digit represents the sequence of courses in cases where courses normally follow each other in succeeding terms. Courses in vocational curricula are numbered with two digits, the first generally representing the year in which the course is pursued, the second the sequence of the course.

Under each department descriptions of vocational courses are printed immediately after the descriptions of collegiate courses.

①1922-23 students take Economics instead.

CIVIL ENGINEERING

Graduates in Civil Engineering who enter that field are expected to render service in some one or more of its many subdivisions. Some of these are the location, construction, maintenance, operation, and oftentimes the appraisal of water supply, irrigation, water-power, railroad, highway, and similar transportation systems; the development and improvement of cities and of rivers and harbors; the design and construction of foundations and of the steel, concrete, or wooden structures which they support. Many graduates enter upon business careers.

After more than a generation of experience, engineering educators and engineers are pretty well agreed that the engineering school can serve best by providing for the development of character and appreciation, and by giving thorough grounding in the fundamentals of science and business.

Curriculum. In preparing the degree curriculum in Civil Engineering the aim has been to give the student ample opportunity to learn thoroughly the fundamental principles of mathematics, physics, and business; and to understand some of the applications of these principles to the solution of practical problems.

Optional courses in Highway, Reclamation, and Structural Engineering are offered in the senior year for those desiring to secure a slightly greater degree of specialization.

Pedagogy. The pedagogy of the courses has been given no less thought than the curriculum. Specific objects in all basic courses are to drive home the physical meanings of forces, velocities, stresses, and deformations; to convey knowledge of the rational methods of analysis for determining the magnitudes of forces, velocities, stresses, and deformations; to convey knowledge of the empirical modifications of incomplete rational analysis; and to develop facility in the application of fundamentals to new problems. In all applied courses the specific objects are to give a knowledge of the current practices in the various phases of civil engineering, to teach the student to recognize the fundamentals underlying these practices and to develop judgment in the application of specific practices to specific conditions. The general objects in all courses are the development of effective personal qualities and business habits; scientific and personal honesty, courage, loyalty, cheerfulness; effective methods of analyzing, recording, and presenting; the development of an appreciation of relative values in the business and professional world; and the inculcation of professional ideals.

Equipment. The department is provided with excellent quarters, and equipment for performing its work thoroughly and efficiently. The entire third floor of Apperson Hall, a large portion of the Engineering Laboratory, and a large room on the ground floor of Mechanic Arts Building are devoted to the uses of the department.

The quarters in Apperson Hall are used for classrooms, drawing and designing rooms, and offices. All are of sufficient size, are well lighted, and thoroughly equipped with modern equipment, including drafting machines, railroad curves, beam compasses, planimeters, pantographs, and the like, in addition to an excellent collection of maps and plans for illustrative purposes.

The instrument room is located on the ground floor of Mechanic Arts Building. The equipment consists of twenty-six transits, twenty-five levels, sixteen plane tables, together with an adequate supply of stadia, level, and line rods, hand levels, tapes, and all of the necessary minor equipment. Each of the instruments is of high-grade American make and is kept in its individual locker with all of the necessary small equipment sufficient to outfit a surveying party.

The hydraulic laboratory occupies the middle third of two floors of the new Engineering Laboratory. It is equipped with storage tanks, adequate facilities for measuring the flow and pressure of water, and a variety of pumps and turbines.

The major equipment consists of two storage tanks of 1500 cubic feet capacity from which two 8-inch Pelton centrifugal pumps, so interconnected as to operate either in series or parallel, and driven by 40-horse-power motors, discharge water through a Venturi meter into a pressure tank. The flow from the pressure tank may be discharged either through a Pelton impulse water wheel, designed to develop 16-horse-power and equipped with a prony brake for testing, or through a horizontal, single-discharge Pelton Francis turbine of the spiral encased type arranged to carry a prony brake. The turbines discharge into one of two weir-tanks of approximately 750 cubic feet capacity, from which the flow passes to a distributing hopper that discharges into either of two large-capacity weighing tanks and thence returns to the storage tanks.

The minor equipment consists of a storage tank of 850 cubic feet capacity, measuring tanks, pipe set-ups for determining losses, orifices, weirs, displacement and Venturi meters, manometers, hydraulic ram, several single- and triple-stage centrifugal pumps, several displacement pumps, 12-inch Doble laboratory water motor, and a vertical-shaft water wheel.

In addition, use is made of the Mechanical and Electrical Engineering laboratories and the Materials Testing laboratory.

COURSES

CE 101, 102, 103. **Freshman Engineering.** A series of lectures by members of the College Faculty, notable engineers, and others. Designed to acquaint the student with the field of engineering, and to further the development of his appreciation of the world in which he lives.

Required in Civil and Highway Engineering; first, second, and third terms; $\frac{1}{2}$ credit each term; 1 lecture. *S. H. Sims*

CE 111. **Engineering Drawing.** Theoretical instruction and drafting-room practice in the use and care of drawing instruments; principles of orthographic projection; use of standard conventional symbols; practice in free-hand lettering.

Required in Civil and Highway Engineering; freshman year; first term; 3 credits; 1 lecture; 8 hours laboratory instruction. Fee \$1.25. Text: French, Engineering Drawing. *D. R. Smith*

CE 112. **Engineering Drawing.** A continuation and extension of CE 111, including a series of graded practice plates in orthographic and isometric projection, topographic drawing, sketching, etc.

Prerequisite: CE 111. Required in Civil and Highway Engineering; freshman year; second or third term; 3 credits; 1 lecture; 8 hours laboratory instruction. Fee \$1.25. Text: French, Engineering Drawing. *D. R. Smith*

CE 113. **Drawing and Descriptive Geometry.** Theoretical instruction and drafting-room practice in projection of lines, points, surfaces, and solids.

Prerequisite: CE 112. Required in Civil and Highway Engineering; freshman year; first, second, or third term; 3 credits; 1 lecture; 8 hours laboratory instruction. Fee \$1.25. Text: Higbee, Essentials of Descriptive Geometry. *D. R. Smith*

CE 121. **Plane Surveying.** Theory, use, and adjustment of level and transit. Measurement and subdivision of land.

Required in Civil and Highway Engineering and Landscape Gardening (freshman year) and in Mining Engineering (sophomore year); first or third term; 5 credits; 2 recitations; 9 hours field work. Fee \$1.00. Text: Breed and Hosmer, Elementary Surveying. *G. Holcomb, E. C. Matthews*

CE 122. **Plane Surveying.** A continuation of CE 121. A study of surveying problems as related to subdivision of public land, farm, and city surveying; special problems and methods; further practice in use of instruments; note-keeping.

Prerequisite: CE 121. Required in Civil and Highway Engineering (freshman year) and in Landscape Gardening (sophomore

year); second term; 4 credits; 2 recitations; 6 hours field work. Fee \$1.00. Text: Breed and Hosmer, Elementary Surveying.

G. Holcomb E. C. Matthews

CE 123. Plane Surveying. Use of stadia and of plane table; topographical mapping and drawing; determination of meridian by stellar and by solar observation.

Prerequisite: CE 122. Required in Civil and Highway Engineering (freshman year) and Landscape Gardening (sophomore year); third term; 5 credits; 2 recitations; 9 hours field work. Fee \$1.25. Text: Breed and Hosmer, Higher Surveying.

G. Holcomb, E. C. Matthews

CE 124. Plane Surveying. Theory, use, and adjustments of tape, compass, and level.

Required in Electrical Engineering; sophomore year; second term; 2 credits; 1 recitation; 3 hours field work. Fee \$1.00. Text: Breed and Hosmer, Elementary Surveying.

S. M. Dolan, E. C. Matthews, E. D. Roberts

CE 125. Plane Surveying. Theory, use, and adjustments of tape, compass, and level.

Required in Forestry and Logging Engineering; freshman year; second term; 3 credits; 1 recitation; 6 hours field work. Fee \$1.00. Text: Breed and Hosmer, Elementary Surveying.

S. M. Dolan, E. C. Matthews, E. D. Roberts

CE 126. Plane Surveying. A continuation of CE 124. Theory, use, and adjustment of transit. Measurement and subdivision of land.

Prerequisite: CE 125. Required in Forestry and Logging Engineering; freshman year; third term; 5 credits; 2 recitations; 9 hours field work. Fee \$1.00. Text: Breed and Hosmer, Elementary Surveying; Vol. I.

S. M. Dolan, E. C. Matthews, E. D. Roberts

CE 226. Plane Surveying. Theory, use, and adjustment of engineer's level and transit.

Required in Mechanical Engineering; sophomore year; first term; 3 credits; 1 recitation; 6 hours field work. Fee \$1.00. Text: Breed and Hosmer, Elementary Surveying.

CE 227. Plane Surveying. A continuation of CE 124. Theory, use, and adjustment of transit.

Prerequisite: CE 124. Required in Electrical Engineering; sophomore year; third term; 2 credits; 1 recitation; 3 hours field work. Fee \$1.00. Text: Breed and Hosmer, Elementary Surveying.

CE 228. Topographical Surveying. Surveying and mapping. Care and use of engineer's level, stadia, transit, and plane table.

Prerequisite: CE 125. Required in Forestry and Logging Engineering; sophomore year; first term; 5 credits; 2 recitations; 9 hours field work. Fee \$1.00. Text: Breed and Hosmer, Higher Surveying.

CE 229. Precise Surveying and Geodesy. Instruction in precise leveling, triangulation, base line measurement, stellar and solar observations.

Prerequisite: CE 123. Elective after freshman year; any term; 3 credits; 1 recitation; 6 hours field work. Fee \$1.00.

CE 231. Curves and Earthwork. Instruction in circular, compound, easement, and vertical curves as related to railroads, highways, and canals; earthwork measurement and computation.

Prerequisite: CE 123. Required in Civil and Highway Engineering; sophomore year; first term; 5 credits; 2 recitations; 9 hours field work. Fee \$1.25. Text: Allen, Railroad Curves and Earthwork.

S. M. Dolan, E. D. Roberts

CE 232. Engineering Location. Complete survey of a transportation or canal line; reconnaissance, preliminary, and location surveys; estimates of quantities.

Prerequisite: CE 231. Required in Civil and Highway Engineering; sophomore year; second term; 2 credits; 7 hours field work. Fee \$1.25. Text: Allen, Railroad Curves and Earthwork.

S. M. Dolan, E. D. Roberts

CE 341. Hydrology. A study of precipitation and run-off; field studies in standard methods of measurement.

Required in Civil and Highway Engineering; junior year; first term; 3 credits; 2 recitations; 3 hours field and laboratory work. Fee \$1.00.

CE 342. Hydraulics. A study of the principles underlying pressure and flow of water; laboratory measurements of pressure and flow.

Prerequisite: CE341. Required in Civil and Highway Engineering; junior year; second term; 3 credits; 1 recitation; 6 hours laboratory work. Fee \$3.00.

H. S. Rogers

CE 343. Hydraulics. A continuation of CE 342; a study of the impulse and reactions of jets and energy of water.

Prerequisite: CE 343. Required in Civil and Highway Engineering; junior year; third term; 3 credits; 1 recitation; 6 hours laboratory work. Fee \$1.00.

H. S. Rogers

CE 344. Hydraulics. A study of the principles underlying and laboratory measurements of the pressure, flow, and energy of water.

Required in Electrical Engineering (junior year) and in Industrial Arts (senior year); second term; 3 credits; 2 recitations; 6 hours laboratory work. Fee \$3.00.

CE 345. Hydraulics. A course similar to CE 344 for students in Mechanical Engineering.

Required in Mechanical Engineering; junior year; first term; 3 credits; 2 recitations; 3 hours laboratory work. Fee \$3.00.

CE 346. Hydraulic Power Plants. A study of the application of the principles of hydraulics to power production in hydroelectric plants; stream flow, dams, head works, pipe lines, wheels, and speed regulation.

Prerequisite: CE 344. Required in Electrical Engineering; junior year; third term; 3 credits; 2 recitations; 3 hours laboratory work. Fee \$3.00.

CE 347. Hydraulic Machinery. A study of the application of the principles of hydraulics to the design of pumps and turbines and the layout of pumping and power plants.

Prerequisite: CE 345 or 346. Required in Mechanical Engineering; junior year; second term; 3 credits; 2 recitations; 3 hours laboratory work. Fee \$3.00.

CE 348. Hydraulics. A study of the principles underlying pressure and flow of fluids and methods of measurement; laboratory measurements of pressure and flow.

Required in Chemical Engineering; junior year; second term; 1 recitation; 6 hours laboratory work. Fee \$3.00.

CE 372. Masonry and Foundations. Study and design of masonry foundations, walls, piers, dams, and arches.

Required in Civil and Highway Engineering; junior year; second term; 3 credits; 2 recitations; 3 hours laboratory work. Fee \$1.50.

S. H. Sims, B. Glenn

CE 381. Structural Analysis. Graphical and algebraic analysis of simple roof and bridge structures.

Prerequisite: MM 351. Required in Civil and Highway Engineering; junior year; third term; 5 credits; 3 recitations; 6 hours laboratory work. Fee \$1.50. Text: Johnson, Bryan, Turneaure, Modern Framed Structures. Vol. I.

S. H. Sims, B. Glenn

CE 387. Structural Analysis. Analysis of roof trusses.

Prerequisite: MM 351. Required in Mechanical Engineering; junior year; third term; 2 credits; 1 recitation; 3 hours laboratory work. Fee \$1.00. Text: Johnson, Bryan, Turneaure, Modern Framed Structures, Vol. I.

S. H. Sims, B. Glenn

CE 433. Railroad Engineering. A study of methods in railway construction, maintenance, and valuation, of standard structures, trestles, tunnels, culverts, minor bridges, ballast, rails and rail fastenings, yards, terminals, etc.

Prerequisite: CE 232. Required in Civil and Highway Engineering; senior year; first term; 3 credits; 3 recitations. Fee \$1.00. Text: Raymond, Elements of Railroad Engineering.

S. M. Dolan, E. D. Roberts

CE 441. Hydraulic Machinery. Operation, characteristics, efficiency, theory, design, and installation of pumps and turbines; laboratory studies.

Prerequisite: CE 343. Required in Civil Engineering; senior year; first term; 4 credits; 2 recitations; 6 hours laboratory work. Fee \$3.00.

H. S. Rogers

CE 442. Hydraulic Structures. Selection and design of structures for the storage, conveyance, distribution, control, and measurement of water.

Prerequisites: CE 343, 483. Elective in Civil Engineering; senior year; third term; 4 credits; 2 recitations; 6 hours laboratory work. Fee \$1.00.

H. S. Rogers

CE 443. Water Power Engineering. Development of water-power; storage and load factor; characteristics of modern turbines; selection of turbines; practical problems in design.

Prerequisite: CE 343. Elective for seniors or graduates; senior year; second term; 3 credits; 1 recitation; 6 hours laboratory work. Fee \$1.00.

H. S. Rogers

CE 444. Hydraulics. Practical application of the principles of hydraulics to irrigation farming, especially for agricultural students; pressure in tanks, pipes, and flumes; measurement of water by weirs, orifices, and current meters; losses of head in pipes; design of open channels; seepage losses; operation of pumps and other lifting devices.

Elective in Agriculture; senior year; first term; 3 credits; 3 lectures. Fee \$3.00.

CE 445. Hydraulic Laboratory. A laboratory study of the pressure, flow, measurement, and pumping of water.

Elective in Soils; senior year; second term; 2 credits; 6 hours laboratory work. Fee \$3.00.

CE 451. Water Supply and Sewerage. A study of the quality of water and works for its collection, purification, and distribution; a study of the amount of sewage and works for its removal and disposal; design problems.

Elective in Civil Engineering; senior year. Fee \$1.00.

CE 461. Reclamation Engineering. Preliminary investigations and design of drainage and irrigation systems.

Prerequisite: CE 343. Required in Civil Engineering; senior year; third term; 4 credits; 2 recitations; 6 hours laboratory work. Fee \$1.00.

CE 462. Irrigation Operation. Operation and maintenance of irrigation systems; protection of canals; maintenance of structures; delivery of water; organization; financial phases of operation.

Prerequisite: CE 444 or 445. Elective in Civil Engineering; required of Agricultural students majoring in Soils; senior year; 3 credits; 3 recitations.

CE 471. Reinforced Concrete. Study and design of slabs, beams, and columns of reinforced concrete.

Prerequisite: MM 353. Required in Civil Engineering; senior year; second term; 5 credits. Fee \$1.00.

CE 472. Concrete Building Design. Study of various types and design of typical structural elements.

Prerequisite: CE 471. Elective in Civil Engineering; senior year; third term; 3 credits; 9 hours laboratory work. Fee \$1.50.

CE 473. Reinforced Concrete and Foundation Design. Fundamental principles of reinforced concrete applied to design of power stations and machinery beds.

Prerequisite: MM 353. Required in Mechanical Engineering; senior year; second term; 3 credits; 1 recitation; 6 hours laboratory work. Fee \$1.00. Text: Hool, Reinforced Concrete Construction, Vol. I. *S. H. Sims, B. Glenn*

CE 482. Structural Engineering. Continuation of CE 381. Study of stresses in simple bridge trusses; influence lines; fundamental principles of design of structural members and connections.

Prerequisite: CE 381. Required in Civil and Highway Engineering; senior year; first term; 4 credits; 1 recitation; 9 hours laboratory work. Fee \$1.50. Text: Johnson, Bryan, Turneure, Modern Framed Structures, Vols. I, II. *S. H. Sims, B. Glenn*

CE 483. Structural Design. Design and estimate of plate girder, steel roof, and bridge trusses.

Prerequisite: CE 482. Required in Civil and Highway Engineering; senior year; second term; 5 credits; 2 recitations; 9 hours laboratory work. Fee \$1.50. Text: Johnson, Bryan, Turneure, Modern Framed Structures, Vols. I-III. *S. H. Sims, B. Glenn*

CE 484. Structural Design. Continuation of CE 483. Design of voussoir and elastic arches.

Prerequisite: CE 383. Required in Civil and Highway Engineering; senior year; third term; 5 credits; 2 recitations; 9 hours laboratory work. Fee \$1.50. Text: Johnson, Bryan, Turneure, *Modern Framed Structures*. Vols. I-III. *S. H. Sims, B. Glenn*

CE 485. **Advanced Structural Analysis.** A study of statically indeterminate structures.

Prerequisite: CE 381. Elective; senior year; second term; 3 credits; 1 recitation; 6 hours laboratory work. Fee \$1.50. Text: Johnson, Bryan, Turneure, *Modern Framed Structures*, Vol. II.

S. H. Sims

CE 486. **Elastic Deformations and Secondary Stresses.** A continuation of CE 485.

Prerequisite: CE 485. Elective; senior year; third term; 3 credits; 1 recitation; 6 hours laboratory work. Fee \$1.50. Text: Johnson, Bryan, Turneure, *Modern Framed Structures*, Vol. II.

S. H. Sims

CE 488. **Wood and Steel Structures.** Design of mill buildings.

Prerequisite: CE 387. Required in Mechanical Engineering; senior year; first term; 3 credits; 1 recitation; 6 hours laboratory work. Fee \$1.50. Text: Howe, *Design of Simple Trusses in Wood and Steel*.

CE 489. **Trusses and Towers.** Design of steel roof trusses and transmission towers.

Prerequisite: CE 387. Required in Electrical Engineering; senior year; first term; three credits; 1 recitation; 6 hours laboratory work. Fee \$1.00.

CE 491, 492, 493. **Seminar.** The members of the senior classes in Civil and Highway Engineering, and the departmental faculty constitute the seminar. The purposes of the seminar are to examine current engineering literature and practice and to provide additional practice in the use of oral and written English.

Required in Civil and Highway Engineering; senior year; first, second, and third terms; 1 credit each term; 1 lecture. Fee \$2.00.

S. H. Sims

ELECTRICAL ENGINEERING

This curriculum is designed especially to train the young engineer in the theory of his profession, such practical work as is given in shop and laboratory being subordinated to this end. Practical acquaintance with actual conditions can be acquired only in the field, during vacation and after graduation. For this reason, and in order to supplement his college education, the student is urged to spend at least a part of his vacation in some line of electrical industry.

Equipment. The four laboratories of this department occupy the first floor of Apperson Hall. The freshman laboratory is equipped with the simpler pieces of apparatus for illustrating the fundamentals of electricity. The sophomore laboratory has facilities for accurate measurements and tests of a more refined character, galvanometers, standard cells, standard instruments, inductances, capacities, storage batteries, etc. The general power laboratory has alternating and direct current generators and motors of all usual types, supplemented by special machines and their auxiliaries. These machines are mounted on five concrete platforms each five feet by twenty-four feet. The main source of power is a 100-horse-power three-unit synchronous motor-generator set from which 110 to 220 volt power is available for D. C. and A. C. experiments. This power is supplemented by three-phase service from a transmission line. The fourth laboratory, with one 100 KVA, 350,000 volt transformer, one 10 KVA, 110,000 volt transformer, oscillograph, sphere gaps, etc., is well equipped for high tension experiments.

COURSES

EE 101, 102, 103. **Elements of Electricity.** An elementary course in the construction and operation of the simpler types of electrical equipment.

Required; freshman year; three terms; 3 credits each term; 2 lectures; 1 three-hour laboratory period. Fee \$2.50 a term. Text: Timbie, *Essentials of Electricity*. *Essentials of Alternating Currents.* R. H. Dearborn, B. B. Bessesen

EE 201, 202, 203. **Introduction to Electrical Engineering.** An introduction to the study of electrical engineering problems, including measuring instruments, connections, and circuits.

Required; sophomore year; three terms; 3 credits each term; 2 lectures; 1 three-hour laboratory period. Fee \$3.50 a term. Text: Fish, *Electric and Magnetic Circuits.* J. H. Beekunap

EE 251. **Technical Electricity.** A preliminary electrical course for non-electrical engineering students, covering the fundamentals of electric currents and direct-current machinery.

Prerequisites: Ph 111, 112, 113. Sophomore or junior year; first term; 3 credits; 2 lectures; 1 two-hour laboratory period. Fee \$2.50. Text: Annett, *Electrical Machinery.*

L. F. Wooster, B. H. Nichols

EE 252. **Electrical Machinery.** A continuation of EE 251, covering alternating current circuits and alternating current machines.

Sophomore or junior year; second term; 3 credits; 2 lectures; 1 two-hour laboratory period. Fee \$2.50. Text: Gray, Principles and Practice of Electrical Engineering. *L. F. Wooster, B. H. Nichols*

EE 253. **Electrical Applications.** A continuation of EE 252, covering the application of electricity to special classes of service, the selection of motors for different service conditions, and the operation and control of electrical machines.

Sophomore or junior year; third term; 3 credits; 2 lectures; 1 two-hour laboratory period. Fee \$3.00. Text: Gray, Principle of Electrical Engineering. *L. F. Wooster*

EE 255. **Electricity for Civil Engineers.** A consolidation and abbreviation of EE 251, EE 252.

Senior year; third term; 5 credits; 4 lectures; 1 two-hour laboratory period. Fee \$3.00. Text: Gray, Principles and Practice of Electrical Engineering. *B. H. Nichols*

EE 301, 302, 303. **Electrical Engineering.** A study of electrostatics, electromagnetism, and direct alternating current machinery.

Required; junior year; three terms; 3 credits each term; 3 recitations. Text: Christies, Electrical Engineering. *L. F. Wooster*

EE 321, 322, 323. **Electrical Laboratory.** The testing and determination of direct-current machinery characteristics; parallel operation and loading back tests; wave form study; alternating current measurements; and an introduction to alternating-current machinery.

Required; junior year; three terms; 3 credits each term; 1 four-hour laboratory period. Fee \$3.50 each term.

F. O. McMillan, H. B. Cockerline

EE 401, 402, 403. **Electrical Engineering.** An analysis of electric-power generation, transmission, and distribution with special reference to the technical, economic, and financial problems involved.

Required; senior year; three terms; 3 credits each term; 3 lectures. *R. H. Dearborn*

EE 411, 412, 413. **Electrical Design.** Design and computations supplementary to courses EE 401, 402, 403.

Required; senior year; three terms; 1 credit; 1 three-hour period.

R. H. Dearborn

EE 421, 422. **Electrical Laboratory.** Alternating-current machinery testing in accordance with the standards of the American Institute of Electrical Engineers; study of phenomena with the oscillograph; alternating-current wave analysis from oscillograms taken in the laboratory.

Senior year; two terms; 3 credits each term; 1 four-hour laboratory period. Fee \$3.50 each term. *F. O. McMillan*

EE 431. **Electric Lighting.** Study of electric lamps and their application to exterior and interior illumination.

Senior year; first term; 2 credits; 2 recitations. *L. F. Wooster*

EE 432. **Electric Railways.** Study of the application of electricity to street and interurban railways; traffic conditions; rolling stock; speed time curves.

Senior year; second term; 2 credits; 2 recitations. *L. F. Wooster*

EE 433. **Electric Signaling.** Study of telegraph, telephone, and wireless equipment and their application to the transmission of intelligence.

Senior year; third term; 2 credits; 2 recitations. *L. F. Wooster*

EE 443. **Railway Electrification.** A study of conditions governing the electrification of trunk lines.

Elective; senior year; third term; 3 credits; 3 lectures.

L. F. Wooster

EE 452. **Industrial Lighting.** Problems in the application of modern ideas of illumination to industrial conditions.

Elective; senior year; second term; 2 credits; 1 lecture; 1 recitation.

L. F. Wooster

EE 453. **High Voltage Engineering.** The study and experimental investigation of high voltage and high frequency phenomena; special attention to insulation and corona problems as applied to transmission.

Elective; senior year; third term; 3 credits; 2 recitations; 1 four-hour laboratory period. Fee \$3.00. Text: Peck, Dielectric Phenomena in High Voltage Engineering.

F. O. McMillan

EE 481, 482, 483. **Seminar.** Presentation of abstracts and discussion of articles in the current electrical periodicals.

Elective; senior year; three terms; 1 credit each term; 1 recitation.

R. H. Dearborn

EE 493. **Thesis.** A course, elective by permission, for those whose records indicate ability to complete a satisfactory thesis.

Senior year; third term; 3 credits.

R. H. Dearborn

HIGHWAY ENGINEERING

There are few lines of public endeavor where more money is being spent, or where a higher degree of technical skill and training is required, than in the field of highway engineering. The purpose of these courses is to meet the demand in this State and throughout the Northwest for men equipped to take charge of road and street construction and maintenance work. In addition to the opportunity for

useful and honorable service, no field, it is believed, offers greater encouragement in a financial way to the young man of ambition and ability.

Thorough theoretical instruction is accompanied by as much laboratory and field practice as possible. The curriculum includes such basic studies as Mathematics, Chemistry, Physics, Drawing, Materials of Engineering, Applied Mechanics, and Hydraulics, in addition to the technical work given by this department.

In the study of highways, special reference is made to the conditions and needs of Oregon. Besides study of the higher types of roads, due consideration is given to the construction and maintenance of the dirt, gravel, and broken-stone roads. In consequence of the vast area of the State, this class of roads must, of necessity, constitute the greater part of its highways for many years.

Equipment. The equipment of the department is modern and adequate. The department of Mechanics and Materials is equipped with modern testing laboratories, including the best centent- and highway-testing machinery, thus affording students in Highway Engineering the opportunity of studying by direct observation and experiment the strength and properties of the various engineering materials.

COURSES

HE 313. Roads and Pavements. A study of the fundamental principles of location, construction, and maintenance of roads; materials used in road and street building; asphalt, brick, wood block, stone, concrete, and other types of pavements. This course is given in connection with a laboratory course, MM 312.

Required in Civil, Highway, and Irrigation Engineering, and in Landscape Gardening; junior year; first term; 5 credits; 5 recitations.

G. V. Skelton

HE 411. Highway Engineering. Economic grades and proper location for different soils and surfacing materials; surface and sub-surface drainage; culvert design and construction; construction and maintenance of earth, sand-clay, gravel, macadam, concrete, brick, and other types of roads; dust preventives and road binders; reconnaissance, surveys, estimates, plans, and specifications; organization of construction and engineering forces; cost data; methods of handling work.

Prerequisite: HE 313. Senior year; first term; 4 credits; 2 recitations; 2 three-hour laboratory periods.

G. V. Skelton

HE 412. Highway Engineering. Continuation of HE 411.

Required in senior year; second term; 3 credits; 2 recitations; 1 three-hour laboratory period.

G. V. Skelton

HE 413. **Highway Engineering.** Continuation of HE 411 and 412.

Required in senior year; third term; 4 credits; 2 recitations; 2 three-hour laboratory periods. *G. V. Skelton*

HE 416. **Economics of Highway Construction.** Economic and social advantages of improved roads; the traffic census; local and centralized systems of control; highway laws of different states; organization of construction and engineering forces; cost data; estimates, methods of handling work; forms of contract—lump sum, unit price, percentage, and cost plus fixed sum.

Required in senior year; first term; 3 credits; 3 three-hour laboratory periods. *G. V. Skelton*

HE 417. **Highway Transportation.** A study of the various methods of highway transportation with especial reference to cost; the traffic census and its application; highway laws of different states; methods of financing highway construction; relation of character of traffic to type of construction, etc.

Elective; senior or graduate year; first term; 3 credits; 3 recitations. *G. V. Skelton*

HE 427. **Contracts and Specifications.** A study of the general principles and laws of contracts as applied to engineering, including preparation and study of specifications and contracts based upon engineering structures designed by the individual student.

Required in Highway and Mechanical Engineering; senior year; third term; 3 credits; 3 recitations. *G. V. Skelton*

HE 438. **Municipal Engineering and City Planning.** The modern city streets, boulevards, and transportation systems; drainage and sanitation; water supply; lighting. A course of lectures and assigned readings.

Required in senior year; third term; 3 credits; 3 recitations.

G. V. Skelton

INDUSTRIAL ARTS

There is a steadily increasing demand for competent, trained teachers of the Industrial Arts subjects, at beginning salaries ranging from \$1,800 to \$2,400, to teach in elementary, secondary, and vocational schools of Oregon and other states. The manual instruction for boys and girls below the seventh grade is generally given by the regular grade teachers, but the supervisor or special teacher of manual training should be able to organize this work and correlate it with other school subjects and with the later formal courses in manual arts. For boys, this work will take the form of instruction in woodworking, blacksmithing, auto repairing, cement work,

and vocational work in the various trades. Where the work is highly specialized along some trade line it is partly financed by the Federal Government.

A degree curriculum of the same general standard as the other baccalaureate curricula is provided in order that the young man who specializes in this field may receive preparation that will place him upon a par with high-school teachers of other branches. The Industrial Arts department is a part of the School of Engineering and has under its supervision all the shop courses offered in the other departments of the College.

Equipment. This department provides the necessary equipment for carrying on the different lines of shop work in the degree and vocational curricula.

The Wood Shop, supplied with the best machines and tools the market affords, contains twenty-four double benches of modern design, accommodating forty-eight students. Each bench is provided with patent rapid-action vises for holding the work, and is furnished with two sets of hand tools, consisting of rip saws, cut-off saws and backsaws, planes, chisels, marking gauges, try-squares, hammers, dividers, and oilstones. The machine equipment of this shop consists of fifteen wood-turning lathes, each furnished with a set of tools; one iron saw-table with rip and cut-off saws, one hand saw, one jig-saw, 24-inch surface planer, 16-inch glue joiner, one hollow chisel mortiser, one belt sander, one veneering press, one disc sander built by the students, two grindstones, and an exhaust system to carry off sawdust. There are also two glue tables with clamps of various sizes, two electric glue heaters. The power is furnished by three three-phase induction motors of 15, 7½, and 5-horse-power.

The Forge Shop contains forty-two down-draft forges of the most approved pattern. Blast is furnished by a steel pressure blower driven by a 10-horse-power induction motor, and the smoke and gases are removed by an 80-inch exhaust fan, driven by a 20-horse-power motor. Each forge is provided with an anvil, hammers, hardies, tongs, and other small tools. An emery grinder, built by students, has been added to the equipment. There are also swedge blocks and vises at convenient points in the room for general use. A power hammer has recently been added.

The Machine Shop contains one 24x24-inch iron planer, one 15-inch shaper, one 12-inch shaper, one universal milling machine, one universal tool grinder, one wet tool grinder, one radial drill, one 20-inch drill press, one sensitive drill press, one 20-inch engine lathe, one 16-inch engine lathe, one 16-inch universal turret lathe, one 14-inch modern geared lathe, five 14-inch engine lathes, two 10-inch speed

lathes, one shop saw, one automatic knife grinder, and twelve bench vises. The following new machines have recently been added: one universal milling machine; one 16-inch by 10-foot quick-change gear lathe; one 14-inch by 8-foot quick-change lathe; one 11-inch by 5-foot engine lathe; one 14-inch by 10-foot quick-change gear lathe; one 14-inch by 8-foot high duty quick-change gear lathe; one universal cutter and tool grinder; one 1-ton, low bed crane; and one electric drill. A 20-horse-power induction motor furnishes the power. A tool-room adjacent contains the small tools. These tools are given out to the students on the check plan.

The Foundry contains a 22-inch Colliau cupola having a capacity of two tons per hour, one 1,200-pound crane ladle, one 800-pound crane ladle, bull ladles, and hand ladles, one 16-inch brass furnace; brass molder's tub, crucibles, one large core-oven, one portable core-oven, one two-ton jib crane, one wall crane for charging floor, one air compressor, one Delano pulley moulding machine No. 2, besides shovels, rammers, and small tools to accommodate twenty students at one time. An emery grinder, built by the students, has been added.

The Auto Mechanics Building, a temporary wooden structure, well lighted and conveniently located, is equipped with all the standard tools usually found in a modern commercial garage. Among the tools are speed wrenches, special wrenches, standard reamers, taps and dies, valve-seating tools, electric drill, jacks, and pliers. The general equipment includes two portable cranes, a twin jack, motor generator set, vulcanizing outfit, 5-horse-power motor, line shafting, emery grinder, drill press, one 15-inch by 8-foot engine lathe, one Marvel cylinder boring machine, one engine stand, and battery repairing tools. A Ford car and a Maxwell truck, used in towing cars and for general utility purposes, together with various parts of cars for instructional purposes, are also elements of the Auto Mechanics equipment.

COLLEGIATE COURSES

IA 111. Manual Training. Designed to meet the needs of those students who desire to teach manual training in the sixth, seventh, eighth, and ninth grades of the public schools. A course in wood construction and design; theory and practice in the proper use of tools; growth and structure of woods; shrinkage, warpage, and seasoning of timber; staining and finishing; study of shop methods, equipment, and courses of study.

Required in Industrial Arts; freshman year; any term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00.

H. C. Brandon

IA 112. Manual Training. Continuation of IA 111. Problems requiring more technical skill and more knowledge of design and tool processes are taken up.

Required in Industrial Arts; freshman year; second or third term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00. *H. C. Brandon*

IA 113. Manual Training. Intended to familiarize those students who wish to teach manual training in the high school with commercial methods in wood-working such as are used in the average jobbing shop and with such machinery as is found in the better equipped high school. Well-designed pieces of furniture are made and finished.

Prerequisites: IA 111, 112. Required in Industrial Arts; freshman year; third term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00. *H. C. Brandon*

IA 114. Cabinet Work. Designing and construction of furniture according to the ability of the individual student; mixing of stains, fillers, and various finishes, with their application; study of the design and construction of drawers and panel work; primary upholstery.

Elective; any term; 2 credits; 2 laboratory periods. Fee \$4.00. Deposit \$1.00. *D. G. Thayer*

IA 132. Patternmaking. Offered to students having two-credit course in patternmaking or equivalent. Construction of the more complicated patterns and core boxes necessary for the building of steam and gas engines or other machine parts.

Elective; first or second term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00. *D. G. Thayer*

IA 141. Foundry Practice. Includes a study of foundry equipment; care and management of cupolas; mixing and melting of iron; molding in green and dry sand; preparation of cores; casting in iron and brass.

Required in Mechanical Engineering; freshman year; any term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00.

A. E. Ridenour

IA 142. Advanced Foundry Practice. Elective; freshman year; any term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00.

A. E. Ridenour

IA 152. Blacksmithing. The student is taught to make and manage a forge fire; to shape iron by bending, upsetting, drawing, and welding. Many useful articles are made, including hooks, staples, rings, clevises, and chains.

Required in Mechanical Engineering (freshman year, third term) and in Electrical Engineering (sophomore year, second term); 2 credits; 2 three-hour laboratory periods. Fee \$4.00.

W. H. Horning

IA 181. **Auto Mechanics.** Intended for owners and drivers of cars, emphasizing adjustment, maintenance, and ordinary running repairs of the various parts and units of the automobile; lubrication; cleaning; care of batteries and electrical systems; various types of construction as employed in machines of different manufactures; actual inspection of different types of cars afforded by cars that are being overhauled in the shop.

Elective; any year; any term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00.

M. L. Granning

IA 182. **Auto Mechanics.** More comprehensive course than IA 181.

Required in Industrial Arts; senior year; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00.

M. L. Granning

IA 191, 192, 193. **Shop Drawing.** For those students who plan to teach manual training. The elements of drawing; use of drawing instruments; lettering; general construction; methods of representation; free-hand sketching; considerable attention to drawings of pieces of furniture and constructions in wood that may be worked out in the shop. In the third term the problem of furniture design receives considerable attention.

Required in Industrial Arts; freshman year; three terms; 2 credits each term; 2 three-hour laboratory periods. Fee \$0.50 each term.

H. C. Brandon

IA 212. **Patternmaking.** The student is given a broad view of modern pattern-shop practice, emphasis being placed upon the relation of patternmaking to drafting, design, foundry work, and machine-shop operations. Lectures, demonstrations, and practical work on patterns, involving typical methods of construction.

Required in Mechanical and Electrical Engineering; any term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00.

D. G. Thayer

IA 213. **Patternmaking.** Course more thorough than IA 212, in which emphasis is placed upon the methods of teaching patternmaking.

Required in Industrial Arts; sophomore year; first term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00.

D. G. Thayer

IA 222. Carpentry. Deals with the correct use of the steel square in laying out practical carpenter work, window-sills and door-sills, bay and circular windows, steps, stairs, etc.; detailed construction of window and door frames; sills, caps, weights, and fastenings in relation to the rough framework and the exterior and interior finish of the building; construction of cornices; gutters; brackets, columns, and newel posts; problems involving original design and construction; practice in reading plans, filling out material bills, and estimating cost of material and labor.

Required in Industrial Arts; elective in other curricula; sophomore year; third term; 3 credits; 1 lecture; 2 laboratory periods. Fee \$4.00. Deposit \$1.00. *D. G. Thayer*

IA 223. Mill Work and Veneering. Instruction and practice in care and use of wood-working machinery, including such work as the sharpening and setting or fitting of band and circular saws, sharpening of jointer and planer bits, and general repair of mill-work machinery; practical work in making of lumber bills and estimates, selection of lumber, and the commercial methods of routing of lumber through the mill; construction of desks, cabinets, tables, etc.; making of three- and five-ply veneer panels and the veneering of irregular surfaces; lectures bearing upon the work, and related information, such as safety precautions to prevent accidents, drying care of lumber, proportioning of parts, size of tenons, etc.

Required in Industrial Arts; sophomore year; second term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$6.00.

D. G. Thayer

IA 242. Foundry Practice. More comprehensive than IA 141.

Required in Industrial Arts; junior year; third term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$4.00.

A. E. Ridenour

IA 252. Advanced Blacksmithing. Continuation of IA 152 or equivalent for those who wish to take another term of blacksmithing.

Elective; sophomore year; any term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00

W. H. Horning

IA 253. Forging and Tool Dressing. After a minimum amount of preliminary work in forging iron the remainder of the term is devoted to making, tempering, and dressing chisels, drills, and other tools.

Elective in Mining Engineering and Chemical Engineering; sophomore year; third term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00.

W. H. Horning

IA 254. Tool Making and Tempering. Devoted to the study of the heat treatment of steel as exemplified in the making and tempering of springs, machine tools, and other articles of steel.

Prerequisite: IA 152 or equivalent. Required in Mechanical Engineering and Industrial Arts; sophomore year; first or third term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00.

W. H. Horning

IA 262. Machine Shop. Both bench and machine work involving principles of chipping, filing, and hand finishing; exercises on lathe, shaper, planer, drill press, and milling machine; lectures on the proper uses of machine tools; cutting speeds; and labor- and time-saving methods.

Required in Mechanical Engineering (sophomore year, second term) and in Electrical Engineering (freshman year, third term); 2 credits; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00.

G. H. Hill

IA 263. Machine Shop. Continuation of IA 262. Considerable time is given to labor-saving devices in rapid production work.

Required in Mechanical Engineering (sophomore year, third term) and in Electrical Engineering (sophomore year, first term); 2 credits; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00.

G. H. Hill

IA 333. Wood Turning. A series of exercises in wood turning intended to familiarize the student with the various uses of lathe tools; methods of centering and chucking; segment work; staining and polishing. Small pieces of furniture such as vases, bowls, rings, trays, tables, and stools are worked out.

Required in Industrial Arts; elective in other curricula; junior year; second term; 2 credits; 2 three-hour laboratory periods. Fee \$4.00. Deposit \$1.00.

H. C. Brandon

IA 351. Forging. Deals with the equipment of the blacksmith shop; exercises in bending, shaping, upsetting, and welding iron; instruction in hardening and tempering steel; brazing; lectures on the management of a shop, instruction, and shop equipment.

Required in Industrial Arts; junior year; first term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00.

IA 352. Hammered Metal Work. Consists of hand-wrought metal work, including hard and soft soldering; the formation of bowls, trays, boxes, lamp shades; and design and construction of furniture fittings.

Required in Industrial Arts; junior year; second term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00.

H. C. Brandon

IA 363. **Machine Shop.** Includes both bench and machine work, taught by a series of exercises in chipping, filing, and finishing; machine work on lathe, shaper, planer, drill press, and milling machine.

Required in Logging Engineering; junior year; third term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. Deposit \$1.00.

G. H. Hill

IA 461. **Machine Shop.** Hand processes of chipping, filing, and polishing; practical work on the lathe, drill press, planer, and shaper, taught by carefully planned exercises; lectures on the proper use of tools; selection, care, and use of machine tools; methods of instruction.

Required in Industrial Arts; senior year; first term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. Deposit \$1.00.

G. H. Hill

IA 462. **Machine Shop.** Continuation of IA 461, in which the student becomes familiar with the milling machine, and general machine shop practice. Considerable attention is given to factory methods, and to processes of rapid production.

Required in Industrial Arts; senior year; second term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. Deposit \$1.00.

G. H. Hill

VOCATIONAL COURSES

(Credits in vocational courses are non-collegiate.)

IA 21. **Carpentry and Cabinet Construction.** The elements of joining as applied to cabinetmaking and the building trades, including tool operations, design, and construction; growth of woods, strength, warpage, and seasoning of timber; staining and polishing.

Vocational Curriculum in Mechanic Arts; first term; 6 credits; 18 hours shopwork. Fee \$10.00.

D. G. Thayer

IA 22. **Carpentry and Cabinet Construction.** Continuation of IA 21. Considerable attention is given to the making of working drawings of simple pieces of furniture which are built in the shop.

Vocational Curriculum in Mechanic Arts; second term; 6 credits; 18 hours shopwork. Fee \$10.00. Deposit \$1.00.

IA 23. **Carpentry and Cabinet Construction.** Continuation of IA 22. The steel square and its uses as applied to brace and roof construction; carpentry work developed through the construction of parts of houses, barns, roofs, and bridges; construction of cornices, gutters, brackets, columns, window frames, and stairways; lectures on measurements of lumber and other materials of construction;

the use of handbooks in calculating roofs, bridges, and trusses; practice in making estimates and working of problems taken from plans and specifications of houses.

Vocational Curriculum in Mechanic Arts; third term; 6 credits; 18 hours shopwork. Fee \$10.00. Deposit \$1.00. *D. G. Thayer*

IA 24. **Carpentry and Cabinetmaking.** Briefer course than IA 23.

Vocational Curriculum in Mechanic Arts; elective; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. Deposit \$1.00. *D. G. Thayer*

IA 31. **Patternmaking.** Emphasizes the necessity of draft; use of core prints and core boxes; allowance for shrinkage of iron and other metals and its effect upon different shapes and thicknesses of castings; distortion of patterns; use of segments, staves, ribs, etc.; operation and repair of power machinery; how to select materials such as glue, lumber, shellac, and fasteners. Much of the work is on patterns of machines that are being made in the College shops.

Vocational Curriculum in Mechanic Arts; first term; 3 credits; 18 hours shopwork. Fee \$10.00. Deposit \$1.00. *D. G. Thayer*

IA 32. **Patternmaking.** Briefer course than IA 31.

Vocational Curriculum in Mechanic Arts; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. Deposit \$1.00. *D. G. Thayer*

IA 41. **Foundry.** Lectures and practice in uses of tools; characteristics of molding sand; problem of joints; parting lines; follow boards; match plates; gates for molds; pouring basins; shrinkage gates; supporting copes; uses of gagers; facings; sea coal; plumbago; talc; charcoal; preparation of facing mixtures; molding with good patterns; with broken patterns; broken castings; skeleton patterns; sweeps; moulding of sheaves, pulleys, brackets, gas-engine cylinders, and other modern types of construction; core making by core boxes, core arbors, core rods; method of venting, baking, and painting of cores.

Vocational Curriculum in Mechanic Arts; any term; 6 credits; 18 hours shopwork. Fee \$10.00. *A. E. Ridenour*

IA 42, 43. **Foundry.** Continuation of IA 41.

Vocational Curriculum in Mechanic Arts; second and third terms; 6 credits each term; 18 hours shopwork. Fee \$10.00 each term. *A. E. Ridenour*

IA 44. **Foundry.** Briefer course than IA 41.

Elective; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. *A. E. Ridenour*

IA 51, 52. **Forging.** Principles of forging as applied to the average jobbing shop; method of building fires; use of tools in working out of nuts, bolts, bending of eyes, forging of staples, hooks, chains, and rings, clevises, and parts of farm machinery; forging of tools in high carbon steel and speed steel such as chisels, hammers, knives, and other tools; lectures on composition of iron and various low and high speed steels and the treatment especially adapted for each grade to annealing, tempering, and case hardening.

Vocational Curriculum in Mechanic Arts; any term; 6 credits each term; 18 periods. Fee \$10.00. *W. H. Horning*

IA 53. **Tool Making and Tempering.** Study of the heat treatment of steel as exemplified in making and tempering tools, springs, knives, and machine tools.

Prerequisite: IA 51 or equivalent. Vocational Curriculum in Mechanic Arts; third term; 6 credits; 18 hours shopwork. Fee \$10.00. *W. H. Horning*

IA 55. **Forging.** Briefer course than IA 51.

Vocational Curriculum; elective; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. *W. H. Horning*

IA 61. **Machine Shop.** Intended for students who wish to specialize in Machine Shop Practice. Chipping and filing straight and plane surfaces; filing two pieces to fit; instruction in laying out and drilling; turning of various kinds of materials at different speeds and estimating time and cost of work done by using different methods, such as without and with gauges, micrometers, and calipers.

Vocational Curriculum in Mechanic Arts; first term; 6 credits; 18 hours shopwork. Fee \$10.00. Deposit \$1.00. *G. H. Hill*

IA 62. **Machine Shop.** Continuation of IA 61. Work on planer, shaper, grinder, and milling machine; practical construction of machinery such as lathes, gas engines, emery grinders; general repair work.

Vocational Curriculum in Mechanic Arts; second term; 6 credits; 18 hours shopwork. Fee \$10.00. Deposit \$1.00. *G. H. Hill*

IA 63. **Machine Shop.** Continuation of IA 62.

Vocational Curriculum in Mechanic Arts; third term; 6 credits; 18 hours shopwork. Fee \$10.00. Deposit \$1.00. *G. H. Hill*

IA 64. **Machine Shop.** Briefer course than IA 61.

Vocational Curriculum in Mechanic Arts; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. Deposit \$1.00. *G. H. Hill*

IA 81. Auto Mechanics. Lectures and practice on care and repair of frame, wheels, steering gear, brakes, axle, transmission, and simple engine adjustments; repair of different types of automobiles.

Vocational Curriculum in Mechanic Arts; first term; 6 credits; 18 hours shopwork. Fee \$10.00. *M. L. Granning*

IA 82. Auto Mechanics. Continuation of IA 81. Lectures and repair work on modern auto gas engines; general overhauling of engines; bearing fitting; cylinder and piston lapping; ring fitting; general assembly and timing of engines.

Vocational Curriculum in Mechanic Arts; second term; 6 credits; 18 hours shopwork. Fee \$10.00. *M. L. Granning*

IA 83. Auto Mechanics. Continuation of IA 82. Study of auto electrical equipment; maintenance; repair of starting, lighting, and ignition systems; repair of batteries; systematic location of troubles; and road repair.

Vocational Curriculum in Mechanic Arts; third term; 6 credits; 18 hours shopwork. Fee \$10.00. *M. L. Granning*

IA 84. Auto Mechanics. Briefer course than IA 81.

Vocational Curriculum in Mechanic Arts; any term; 3 credits; 3 three-hour laboratory periods. Fee \$6.00. *M. L. Granning*

IA 85, 86, 87. Automotive Laboratory. These courses are designed to supplement courses IA 81, 82, 83. Special attention to the theory involved in the electrical equipment of automobile and other gas engines; systematic study of the principles of elementary electricity; the applications of these principles in batteries, condensers, induction coils, magnetos, generators, and motors as found in modern automobile construction; standard types of starting, lighting, and distributing systems with reference to their construction, care, and operation, maintenance, and spark control; electrical testing and trouble shooting.

Elective in Vocational Curriculum; three terms; 1 credit each term; 2 recitations or lectures; 1 three-hour laboratory period. Fee \$2.00 a term. Text: Hobbs and Elliott, *The Gasoline Automobile*.

D. Ferguson

MECHANICAL ENGINEERING

The curriculum in Mechanical Engineering has for its purpose the preparing of young men for positions of usefulness and responsibility in the industrial life of the country. Instruction is given by means of lectures, recitations, and laboratory exercises. The scientific principles involved in machines, mechanical movements, and machine design are investigated and studied by solving numerous

problems in classroom and laboratory. The study of transformation of heat energy into power is taken up in early courses, where the student becomes familiar with the various types of engines by actual contact in the laboratory. At the same time the physical laws governing the principles of operation of engines and transformation of heat energy are explained in the lectures and illustrated by problems.

As the courses advance, the financial side of engineering is made the subject of special study and investigation and finally in the senior year the principles of efficiency and economy are embodied in the design of complete power plants.

Other technical subjects such as mechanics, surveying, hydraulics, and electrical machinery are included in the curriculum to give the student a general knowledge of engineering.

The basic courses of Mathematics, English, Chemistry, and Physics are required, as well as Economics, Political Science, and Business Organization, in order that students may be prepared for useful citizenship as well as for engineering.

Equipment. The equipment of this department consists of drawing tables and drawing boards, blue-print room, and laboratory equipment in steam and gas engineering. The gas and steam engine laboratory equipment is located in the new Engineering Laboratory building.

The gas-engine laboratory contains some twenty engines, including examples of practically every type in use. A number of these are gasoline and kerosene four- and two-cycle engines, ranging in size from three to eighteen horse-power. Many of these engines are intended for practice in operation, repair work, and general maintenance, but all of the principal units are especially fitted for testing and experimentation.

The steam laboratory contains several steam boilers of different types, plain slide-valve, high-speed automatic and Corliss engines, and steam turbines; also pumps, injectors, fans, hot blast heating system, and other auxiliary equipment. The laboratory courses teach the operation, care, and maintenance of power-plant equipment, as well as testing, power measurement, and economy.

The shop equipment used by engineering students is under the supervision of the department of Industrial Arts and includes machines and tools usually found in modern college shops.

COLLEGIATE COURSES

ME 101, 102. **Engineering Survey.** The purpose of these courses is to acquaint the student with the general field of activities in mechanical and electrical engineering. Attention is directed to methods of study and economical use of time in college work.

Required in Mechanical and Electrical Engineering; freshman year; second and third terms; $\frac{1}{2}$ credit each term; 1 lecture period.

G. A. Covell

ME 111. Linear Drawing and Lettering. Training in the use of drafting instruments to construct accurate pencil drawings and clean-cut ink lines; practice in making well-shaped engineering lettering and titles. Intended for students who have had no training in mechanical drawing. A student who, by submitting certified work in linear drawing and lettering, or by taking a special examination satisfies the instructor that he has had the equivalent of this course may be excused from this work. The instruments and materials for the course cost about \$20.00; the instruments are used in all later drawing courses.

Required in Electrical, Mechanical, and Mining Engineering (freshman year, first term) and in Forestry and Chemical Engineering (sophomore year, third term); 2 credits; 3 two-hour laboratory periods. Text: French, Engineering Drawing. *M. Wenk, J. C. Ellis*

ME 112. Elementary Mechanical Drawing. Practice in making working drawings of machine parts; methods of dimensioning and checking; making tracings from these drawings; free-hand sketching; pictorial representation.

Prerequisite: ME 111 or equivalent. Required in Electrical, Mechanical, and Mining Engineering; freshman year; first or second term; 2 credits; 3 two-hour laboratory periods. Text: French, Engineering Drawing. *M. Wenk, J. C. Ellis*

ME 113. Descriptive Geometry. Theory and problems on the projection of points, lines, surfaces, and solids. Effort is made to make the work as practical as possible and to reveal its relation to mechanical drawing and drafting-room problems.

Required in Electrical Engineering; freshman year; third term; 3 credits; 2 three-hour laboratory periods; 1 lecture. Text: Ferris, Elements of Descriptive Geometry. *M. Wenk*

ME 114. Mechanical Drawing. A continuation of ME 112.

Required in Mechanical Engineering; freshman year; third term; 2 credits; 3 two-hour laboratory periods. Fee \$0.50. Text: French, Engineering Drawing. *M. Wenk, J. C. Ellis*

ME 211. Descriptive Geometry. Theory and problems on the projection of points, lines, surfaces, and solids. An effort is made to make the work as practical as possible and to reveal to the student its relation to mechanical drawing and drafting-room problems.

Required in Mechanical Engineering; sophomore year; first term; 2 credits; 1 three-hour laboratory period; 1 recitation. Text: Ferris, Elements of Descriptive Geometry.

M. C. Phillips

ME 212. **Machine Drawing.** A course following Descriptive Geometry and Elementary Mechanical Drawing, in which the principles of the foregoing are applied to the production of complete working shop drawings.

Required in Mechanical Engineering; sophomore year; second term; 2 credits; 2 three-hour laboratory periods. Fee \$0.50.

M. C. Phillips

ME 213. **Mechanism.** A study of mechanical movements, including velocity ratios, transmission of motion by link work, gearing, cams, and belting.

Required in Mechanical Engineering; sophomore year; third term; 3 credits; 1 recitation; 3 two-hour laboratory periods. Text: Keown, Elements of Mechanism.

M. C. Phillips

ME 221. **Elements of Heat Engineering.** An introductory course in the fundamental principles of heat engineering, including study of fuels and combustion, properties of steam, steam boilers; practical laboratory work in general construction, operation, and maintenance of boiler-room equipment.

Required in Mechanical Engineering; sophomore year; first term; 3 credits; 2 recitations; 1 two-hour laboratory period. Fee \$3.00. Text: Shealy, Steam Boilers.

R. B. Boals, H. E. Bukowsky

ME 222. **Steam Engines.** A study of construction and operation of engines and function of engine parts; use of the indicator and prony brake; engine valve gears; practice in adjustment and operation of steam engines.

Required in Mechanical Engineering; sophomore year; second or third term; 3 credits; 2 recitations; 1 two-hour laboratory period. Fee \$3.00. Text: Shealy, Steam Engines.

R. B. Boals, H. E. Bukowsky

ME 223. **Gas Engines.** Gas engine fuels; their combustion; construction of the various types of engines; carburetors and ignition systems; practice in the operation of gas engines; their adjustment; diagnosis and correction of engine troubles.

Required in Mechanical Engineering; sophomore year; second or third term; 3 credits; 2 recitations; 1 two-hour laboratory period. Fee \$1.50.

R. B. Boals, H. E. Bukowsky

ME 233. **Steam and Gas Machinery.** A general course adapted to the needs of Civil Engineering students. Elementary thermody-

namics; properties of steam; fuels and combustion; boilers; engines; pumps and other auxiliaries; gas and oil engines; practice in maintenance, operation, and simple tests of steam and gas equipment.

Required in Civil Engineering; sophomore year; third term; 5 credits; 3 recitations; 6 hours laboratory work. Fee \$5.00. Text: Allen and Bursley, *Heat Engines*. *R. B. Boals, H. E. Bukowsky*

ME 315. Advanced Mechanical Drawing. A course in elementary machine design dealing with the design of simple installations and parts of machinery by means of standard handbooks and empirical formulas.

Required in Industrial Arts; senior year; second term; 3 credits; 3 laboratory periods. *M. C. Phillips*

ME 321, 322. Heat Engineering. The theory of heat engines, pressure volume changes of gases, gas cycles, evaporation, properties of steam, steam and other vapor cycles, analysis of performance of heat motors; laboratory practice in operation and testing; calibration of test apparatus.

Prerequisite: Mth 353. Required in Mechanical Engineering; junior year; first and second terms; 3 credits each term; 2 recitations; 1 three-hour laboratory period. Fee \$3.00 each term.

W. H. Martin, R. B. Boals, H. E. Bukowsky

ME 323. Steam Turbines. The theory of the steam turbine; types; construction and design of most important parts; operating characteristics; effect of pressure, superheat, vacuum, and other factors.

Required in Mechanical Engineering; junior year; third term; 3 credits; 3 recitations. Text: Moyer, *The Steam Turbine*.

R. B. Boals

ME 331. Steam Machinery. A study of solid fuels; their combustion; boilers and auxiliaries; simple, compound, and uni-flow engines; care and operation of steam machinery; its adjustment; flue-gas analysis and its application to practice.

Required in Electrical Engineering; junior year; first term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$3.00. Text: Allen and Bursley, *Heat Engines*. *R. B. Boals*

ME 332. Steam Turbines. Study of the various commercial types of impulse; reaction and mixed-flow turbines; turbo-generators; their method of governing; theory, efficiency, and construction; laboratory practice in their operation and adjustment. This includes a short course in gas and oil engines with special reference to the requirements of the electrical engineer.

Required in Electrical Engineering; junior year; second term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$3.00.

W. H. Martin

ME 333. Steam Power Plants. A study of the composite steam-power plant, covering the assembly and coordination of the various units, coal-handling machinery for power plants, etc., with especial reference to their use in electrical generating and distributing systems, together with preliminary estimates and layout of such plants.

Required in Electrical Engineering; junior year; third term; 3 credits; 2 recitations; 1 three-hour drawing period. Text: Gebhardt, Steam Power Plant Engineering.

W. H. Martin

ME 353. Power Laboratory. Operation and testing of steam and gas machinery. Indicator practice, valve setting, mechanical efficiency, and economy tests.

Prerequisites: Ph 113, Mth 253. Required in Chemical Engineering; junior year; third term; 3 credits; 1 recitation; 6 hours laboratory work. Fee \$5.00.

S. R. Cummings

ME 411. Machine Design. Application of the principles of Mechanism, Mechanics, and Strength of Materials to design of machine elements. Problems involving riveted joints; screws; shafts and shafting; belt and rope drive; pulleys; gearing; bearings; machine frames; analysis of force and energy problems; flywheels; engine balancing; computations and drawings necessary to the design of one or more complete machines.

Required in Mechanical Engineering; senior year; first term; 3 credits; 3 recitations. Text: Kimball and Barr, Machine Design.

M. C. Phillips

ME 412. Machine Design.

Required in Mechanical Engineering; senior year; second term; 4 credits; 2 recitations; 2 three-hour laboratory periods. Fee \$0.50. Text: Kimball and Barr, Machine Design.

M. C. Phillips

ME 413. Machine Design.

Required in Mechanical Engineering; senior year; third term; 2 credits; 2 three-hour laboratory periods. Fee \$0.50. Text: Kimball and Barr, Machine Design.

ME 421. Gas Engineering. Theory of gas and oil engines and gas producers; the Otto and Diesel cycles; liquid fuels; principles of carburetion; ignition and flame propagation; gas manufacture; design characteristics of stationary and automotive engines; trend of development.

Optional in Mechanical Engineering; senior year; first term; 3 credits; 3 recitations.

W. H. Martin

ME 432, 433. Power-Plant Engineering. A detailed study of the principles involved and the construction and operation of power-plant equipment; engines; turbines; boilers; condensers; heaters; water and vacuum pumps; stokers; furnaces and combustion of fuels. Attention is given to the proper location of plant, selection of equipment for given conditions, and methods of determining fixed charges and operating cost.

Prerequisite: ME 321. Required in Mechanical Engineering; senior year; second and third terms; 3 credits each term; 3 recitations. Text: Gebhardt, *Steam Power Plant Engineering*.

J. R. DuPriest

ME 442, 443. Power-Plant Design. A course in the quantitative side of design of power-plant equipment. Problems to determine the dimensions of boilers, such as heating surface, grate surface, diameter and thickness of shell, number of tubes, etc.; diameter, height, and stability of chimneys; sizes of condensers and pumps; proportions of cylinders for compound engines; fly-wheel design; construction of load curves; plant layout, etc. Must accompany or follow ME 432, 433.

Required in Mechanical Engineering; senior year; second and third terms; 2 credits each term; 2 three-hour periods. Fee \$1.00 each term.

J. R. DuPriest

ME 451, 452, 453. Engineering Laboratory. A detailed study of mechanical equipment and processes by the method of laboratory tests and analysis of test results. Efficiency and economy tests and operating characteristics of steam, gas, and oil engines; steam turbines; steam pumps; boilers; fans and blowers; heating and ventilating equipment; compressed air and refrigerating machinery. The A. S. M. E. Power Test Code is used as a laboratory manual.

Required in Mechanical Engineering; senior year; three terms; 3 credits each term; 9 hours laboratory work. Fee \$5.00 each term.

W. H. Martin, R. B. Boals, S. R. Cummings

ME 461. Heating and Ventilating. Study of modern methods of heating and ventilation; approved systems of heating by means of air, steam, and hot water; methods of computing radiating surface; effective methods of ventilation; general design; construction and operation of heating plant.

Optional in Mechanical Engineering; senior year; first term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Text: Hoffman, *Heating and Ventilating*.

M. C. Phillips

ME 483. Seminar. Practice in effective writing and speaking on engineering and allied subjects. Preference is given to the

discussion of any new developments in the field of mechanical engineering. The work supplements the work of the prescribed courses.

Required in Mechanical Engineering; senior year; third term; 2 credits; 2 recitations. *J. R. DuPriest*

VOCATIONAL COURSES

(Credits in vocational courses are non-collegiate.)

ME 11. Vocational Drawing. Course ME 111 simplified for those students who have not had high-school drawing.

Required in Vocational Curriculum in Mechanic Arts; first term; 2 credits; 6 hours laboratory work. Fee \$0.50. Text: French, Engineering Drawing. *H. C. Brandon*

ME 12. Vocational Drawing. Theory and problems in conventional representation of bolts, nuts, screws, and other machine parts; drawings of simple machines.

Required in Vocational Curriculum in Mechanic Arts; second term; 2 credits; 6 hours laboratory work. Fee \$0.50. Text: French, Engineering Drawing. *H. C. Brandon*

ME 13. Vocational Drawing. Practical machine drafting including free-hand drawing, assembly and detail drawings of machines such as are built at the College shops; methods of dimensioning and checking. Advanced students will have work in gearing.

Required in Vocational Curriculum in Mechanic Arts; third term; 2 credits; 6 hours laboratory work. Fee \$0.50. *H. C. Brandon*

MECHANICS AND MATERIALS

Courses are offered covering statics, dynamics, and the strength and properties of engineering materials. In the last division there are, in addition to the general courses which deal with structural materials, several special courses from which the student may learn the technic belonging to various specialized branches of materials treatment and testing.

The offices, classrooms, and laboratories of the department are located in the east division of the Engineering Laboratory. The floor-space occupied is about 14,000 square feet, and provides separate laboratories for structural materials, cement and concrete, bituminous and non-bituminous highway materials, oils, fuels, and the microscopic examination and heat treatment of metals. The equipment is modern, and is well arranged for the work of instruction and for a limited amount of research.

COURSES

MM 311. Materials of Engineering. A lecture and laboratory course on the materials of engineering construction with special reference to the methods and specifications adopted by the American Society for Testing Materials and other national engineering organizations. In the work with metals the microscope is used to illustrate structure and to study characteristic types of defective material. The laboratory program is varied somewhat for the students from different departments to include tests on those materials of special interest to them; for example, Civil Engineering students do special work on highway materials, Forestry students on timber, etc.

Required in Civil Engineering (junior year, second term), in Electrical Engineering (junior year, first term), in Industrial Arts (senior year, first term), in Forestry and Logging Engineering (senior year, second term), in Chemical Engineering (junior year, first term); elective to other suitably prepared students; 3 credits; 1 lecture; 3 hours laboratory work. Fee \$3.00. Text: Moore, *Materials of Engineering*.

S. H. Graf, C. E. Thomas, I. F. Waterman, J. C. Othus

MM 312. Materials of Engineering. Similar to MM 311 but including work on fuels, lubricants, bearing metals, belting, and other materials of special interest to the mechanical engineer in addition to work on the structural materials. Assigned readings.

Prerequisites: Ph 111, 112, 113; Ch 101, 102, 103; Mth 251, 252, 253. Required in Mechanical Engineering; junior year; first term; 4 credits; 1 lecture; 6 hours laboratory work. Fee \$4.00. Text: Moore, *Materials of Engineering*.

S. H. Graf, C. E. Thomas, I. F. Waterman, J. C. Othus

MM 351. Mechanics. (Statics). Applied mechanics for engineering students; forces and force systems with reference to the equilibrium of rigid bodies, including simple framed structures; methods of finding centers of gravity and moments of inertia and their practical applications; numerous problems having engineering application.

Prerequisites: Differential and Integral Calculus. Required in Mechanical, Electrical, and Mining Engineering; junior year; first term; 3 credits; 3 recitations. Text: Boyd, *Mechanics*.

S. H. Graf, C. E. Thomas, J. C. Othus

MM 352. Mechanics. (Dynamics). A continuation of MM 351 dealing with principles and problems in Kinetics; force as a factor causing motion; work, energy, friction, and impact studied and illustrated by means of numerous problems.

Prerequisite: MM 351. Required in Mechanical, Electrical, and Mining Engineering; junior year; second term; 3 credits; 3 recitations. Text: Boyd, Mechanics.

S. H. Graf, C. E. Thomas, J. C. Othus

MM 353. Strength of Materials. In this course the general principles of mechanics are applied to the elements of engineering structures to determine their strength and fitness. Some of the features are tensile and crushing strength of various engineering materials; stresses in beams and girders under different systems of loading and support; supporting strength of columns; application of tension to shafts in transmission of power. Students are required to work and hand in problems.

Prerequisite: MM 352. Required in Mechanical and Electrical Engineering (third term) and in Civil Engineering (second term); junior year; 3 credits; 3 recitations. Text: Boyd, Strength of Materials.

S. H. Graf, C. E. Thomas, I. F. Waterman, J. C. Othus

MM 361. Mechanics (Statics). Similar in content to MM 351 with emphasis on those principles which are fundamental in structural design.

Prerequisites: Differential and Integral Calculus. Required in Civil Engineering; junior year; first term; 4 credits; 3 recitations; 1 two-hour computing period. Text: Boyd, Mechanics.

I. F. Waterman

MM 362. Mechanics (Dynamics). A continuation of MM 361, similar in subject-matter to MM 352, a greater time allowance permitting somewhat more complete treatment.

Prerequisite: MM 361. Required in Civil Engineering; junior year; third term; 4 credits; 3 recitations; 1 two-hour computing period. Text: Boyd, Mechanics.

I. F. Waterman

MM 421. Highway Inspection Methods. Designed for students who wish to engage in highway work as inspectors. The course includes lectures on the principles of inspection, sampling of materials, and operation of concrete and bituminous paving plants, and covers those field and laboratory tests necessary in the control of various types of road surfacing mixtures. Assigned readings. Laboratory reports.

Elective; second or third term as announced in schedule; 3 credits; 1 recitation or lecture; 1 three-hour laboratory period. Fee \$3.00.

S. H. Graf

MM 426. Highway Materials Laboratory. Designed particularly for those specializing in Highway Engineering. Different road and paving materials and binders are tested and their relative values determined. Sheet asphalt mixtures and bituminous mortars are

studied to determine the effects of various changes in the grading of the aggregates. Finally, samples of various types of roads and pavements are analyzed for density, composition, and grading, with special reference to their conformity with specifications. Assigned references.

Required in Highway Engineering; senior year; second term; 3 credits; 1 lecture period; 2 laboratory periods. Fee \$3.00. Text: Hubbard, Laboratory Manual of Bituminous Materials. *S. H. Graf*

MM 427. Structural Laboratory. An advanced laboratory course on plain and reinforced beams and columns to study methods of reinforcing and to determine the value of the materials available; tests on the relative permeability of different mixtures, both plain and when treated with various waterproofing processes; on thermal conductivity of concrete; study of stresses in structures by strain gauge.

Prerequisite: MM 311. Required in Civil and Structural Engineering; senior year; second term; 3 credits; 9 hours laboratory work. Fee \$3.00. *S. H. Graf, I. F. Waterman*

MM 481. Metallography and Pyrometry. Lectures and laboratory work designed to give a working knowledge of the methods of study of structure of metals and alloys; particular attention given to correlation of thermal and mechanical treatment with structure and physical properties of iron and steel; calibration and use of various types of pyrometers; laboratory experiments in heat treatment; preparation of specimens; etching; studying structure under the microscope; making photomicrographs; physical tests, whenever possible, to show the effects on strength, ductility, hardness, or other mechanical properties of the different thermal treatments or other industrial processes.

Required in Chemical Engineering; junior year; second term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$3.00. Text: Hoyt, Metallography. *S. H. Graf*

MM 691, 692, 693. Experimental Research Problems. An opportunity is given for suitably prepared students interested in research to work out original problems. These may be either of their own choosing or suggested by the department, and may cover any subject within the scope of the department laboratories.

Prerequisites: Must be approved in each case, and will vary according to the work proposed. Elective to senior and graduate students; three terms; 3 credits each term; 9 hours laboratory work. Fee to be arranged. *S. H. Graf, C. E. Thomas*

School of Forestry

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.
GEORGE WILCOX PEAVY, M.S.F., Dean of the School of Forestry.
FLORENCE KING, Secretary to the Dean.

General Forestry

HAROLD STEPHENSON NEWINS, M.F., Professor of Forestry.
HARRY IRA NETTLETON, B.Sc., Instructor in Forestry.

Logging Engineering

JOHN POMOROY VAN ORSDEL, Professor of Logging Engineering.
HENRY RICHARD PATTERSON, B.Sc., Assistant Professor of Logging Engineering.

*Basic Arts and Sciences**

M. ELLWOOD SMITH, Ph.D., Dean of the School of Basic Arts and Sciences; Director of Summer Session.
WILLIBALD WENIGER, Ph.D., Professor of Physics.
CHARLES BUREN MITCHELL, M.A., Professor of Public Speaking.
EDWARD BENJAMIN BEATY, B.Sc., M.A., Associate Professor of Mathematics.
FREDERICK CHARLES KENT, A.B., Associate Professor of Mathematics.
NICHOLAS TARTAR, B.Sc., Assistant Professor of Mathematics.
HARRY LINDEN BEARD, B.Sc., Assistant Professor of Mathematics.
SIGURD HARLAN PETERSON, A.B., Assistant Professor of English.
WILLARD JOSEPH CHAMBERLIN, M.S., Assistant Professor of Entomology.
WILLIAM EVANS LAWRENCE, B.Sc., Associate Professor of Plant Ecology.
GEORGE REUBEN VARNEY, A.B., D.D., Assistant Professor of Public Speaking.
JOHN ALBERT VAN GROOS, M.S., Instructor in Mathematics.
GEORGE ALFRED WILLIAMS, A.B., Instructor in Mathematics.
EARL WILLIAM WELLS, A.B., Instructor in Public Speaking.

*Here are listed members of other faculties giving instruction open to students in Forestry.

*Other Schools and Departments**

GEORGE WILLIAMS MOSES, Colonel, Cavalry, United States Army, Professor of Military Science and Tactics; Commandant of Cadets, Reserve Officers' Training Corps.

HECTOR MACPIERSON, Ph.D., Professor of Economics and Sociology.

ULYSSES GRANT DUBACH, Ph.D., Professor of Government and Business Law.

SAMUEL HERMAN GRAF, M.S., Professor of Mechanics and Materials.

LUCY MAY LEWIS, A.B., B.L.S., Librarian.

RICHARD BURR RUTHERFORD, A.B., Professor of Physical Education for Men; Director of Intercollegiate Athletics.

NEWEL HOWLAND COMISH, M.S., Professor of Economics.

FRANK ABBOTT MAGRUDER, Ph.D., Associate Professor of Government and Business Law.

SAMUEL MICHAEL PATRICK DOLAN, C.E., Associate Professor of Civil Engineering.

ERWIN BERTRAN LEMON, B.Sc., Associate Professor of Accounting.

CHARLES EDWIN THOMAS, M.E., Assistant Professor of Mechanics and Materials.

RAY BOALS, B.Sc., Assistant Professor of Mechanical Engineering.

MORRIS WENK, A.B., E.E., Assistant Professor of Mechanical Engineering.

GLENN HARTMAN HILL, Instructor in Machine Shops.

IVAN FREDERICK WATERMAN, B.Sc., Instructor in Mechanics and Materials.

BURDETTE GLENN, B.Sc., Instructor in Civil Engineering.

EDER CHARLES MATTHEWS, B.Sc., Instructor in Civil Engineering.

The function of the School of Forestry is to train men to be of service to the State and to the Nation in making effective a forestry program which will insure forest products adequate in amount for the needs of all our people for all time to come. The national timber supply is being used four times as fast as it is being produced. Within a comparatively short time the people of this country will be hard pressed for this material so necessary for the general welfare.

Because of the importance of the timber resources of the State and of the magnitude of its lumber industry, the School of Forestry has a peculiar responsibility to the commonwealth. Oregon has one-fifth of all the remaining standing timber in the United States. It has over 440 billion board feet of timber yet uncut. This is being removed at an annual rate of over five and one-half billion feet. Due to the exhaustion of eastern and southern supplies this annual cut will

*Here are listed members of other faculties giving instruction open to students in Forestry.

rapidly increase. An area of more than 100,000 acres is each year being added to the cut-over lands of the State. Most of this area is suited for the growing of forest crops. The lumber business produces more wealth and employs more labor than any other single industry in the State. The forest industry is destined, in the near future, to very rapid expansion.

The work of the School of Forestry is divided into two main branches, Technical Forestry and Logging Engineering, with a secondary department, Lumber Manufacture.

Technical Forestry. Within the past decade the American forester has won notable recognition, and the profession of forestry has made a wonderful growth. The Federal Government has set aside one hundred fifty-six million acres of forest land to be permanently devoted to growing timber. In Oregon an area of thirteen million acres lies within the National Forests, while an area of eleven million acres is privately owned. Since it is suited only to growing timber, much of the privately owned land will eventually be brought under some form of management so that it can be made permanently productive. This indicates the field of the technical forester. His business is to see to it that this vast area is brought to its highest degree of productiveness and kept there.

Logging Engineering. The logging engineer is a recent development of the Pacific Northwest. In the past, low prices for standing timber, easy logging, and the high prices for lumber have made profits to the lumberman sure, and these same conditions have not demanded economy in operation. With high-priced stumpage, timber difficult of access, and low prices for lumber, a revolution in the entire lumber industry is being forced. It has become a case of economy in operation or financial failure. Bringing the logs over rough country to the mill involves many engineering problems. Among these are the construction of logging railroads, the installation of efficient sky-line and ground-logging devices, and the operation of special steam and electrical logging equipment. The curriculum in Logging Engineering is designed to equip young men to be of use in this field. The curriculum as outlined in this catalogue was prepared under the direction of able timbermen experienced in the Pacific Northwest, and the strictly technical subjects in the curriculum are taught by men who have had practical experience in some of the most progressive logging operations in the country.

Lumber Manufacture. The manufacture and merchandising of lumber have come to be matters of such importance among the industries of Oregon that many young men are asking for special training for these fields. Following the second year in the School

of Forestry, such men will have open to them a carefully selected group of elective subjects which are considered as especially adapted to their needs. Men majoring in Lumber Manufacture will be granted the regular bachelor's degree in Forestry.

Degree Curricula. Two curricula leading to the Bachelor's degree are offered, one in General Forestry and one in Logging Engineering.

Advanced Degrees. The professional degree of Master of Science in Forestry or of Logging Engineering is offered to graduates of the College, or other colleges of equal rank, who have attained the degree of Bachelor of Science in the corresponding forestry curriculum, and met the College requirements for graduate study (given in the section of the Catalogue on "General Information"). These requirements specify one full year of resident work amounting to 48 college credits, including an acceptable thesis.

Forestry Short Course. A short course in Forestry for the assistance of men in practical work who do not have the time to devote to a full course or who do not have the necessary preparation for regular degree work, is given during the second term. Effort is made in this short course to fit the work, as far as practicable, to the needs of the individual.

Admission. Detailed statements of entrance requirements, routine of registration, etc., are given in the special bulletin on "General Information," which is furnished on application. Requirements for admission to the curricula of the School of Forestry are as follows:

Degree curricula: Applicants must be at least 16 years of age and must have completed 15 units of work in a secondary school recognized as standard, these units to include (a) at least 3 units of English, 1 unit each of Elementary Algebra and Plane Geometry, and $\frac{1}{2}$ unit of Higher Algebra, together with (b) $5\frac{1}{2}$ additional units of English, Mathematics, Foreign Languages, Laboratory Sciences and History (including Civics), and (c) 4 units selected from any subjects credited toward graduation in standard high schools of Oregon.

Graduate Curricula: Applicants must be holders of the baccalaureate degree, in the corresponding forestry curriculum, from the Oregon Agricultural College or other college of equal rank.

Forester's Short Course: Applicants must have completed a common school course and be at least 18 years of age. Applicants over 21 years who have not completed a common school course may be admitted to the Short Course at the discretion of the Dean.

Equipment. The School of Forestry is housed in the Forestry Building, a thoroughly modern three-story structure eighty feet wide

and one hundred thirty-six feet long. The building contains roomy laboratories for work in silviculture, dendrology, mensuration, forest protection, wood technology, drafting, lumber grading, and logging devices and equipment. Through the courtesy of the manufacturers of logging equipment much valuable logging machinery has been accumulated for demonstration purposes. Lumber manufacturing concerns have generously supplied the school with wood products made from various species of Oregon trees. A valuable miniature paper manufacturing machine makes possible experimental work in paper making. All available publications dealing with general forestry, logging, or lumber manufacture are provided for the use of students.

Actual field work, so essential in preparing men for work in forestry and logging engineering, is made possible by the fact that large areas of timbered lands are easily accessible from the College. Some of the largest lumber manufacturing plants in the Northwest are located within two or three hours' ride from Corvallis. Located as it is in the heart of the greatest timbered region of the United States, the School of Forestry possesses unique advantages for preparing men for service in professional forestry, logging engineering, and lumber manufacture.

DEGREE CURRICULUM IN GENERAL FORESTRY

The following courses are recommended for freshman and sophomore students who desire to work for a degree either in General Forestry or in Logging Engineering. For graduation the College requires the student to complete 207 credits. The student is expected to complete the professional work as outlined below. Other subjects may be substituted only upon the approval of the Dean. Freshman and sophomore requirements are modified only in exceptional cases.

| | Freshman Year | | |
|--|------------------------|------------------------|------------------------|
| | 1st | 2d | 3d |
| General Forestry (F 111, 112)..... | 4 | 3 | --- |
| Elementary Mensuration (F 123)..... | --- | --- | 4 |
| English Composition (Eng 101, 102)..... | 3 | 3 | --- |
| Plane Trigonometry (Mth 111), Elementary Analysis (Mth 131, 132)..... | 4 | 4 | 4 |
| General Botany (Bot 101, 102)..... | 4 | 3 | --- |
| Mechanical Drawing (ME 111)..... | --- | --- | 2 |
| Plane Surveying (CE 125, 126)..... | --- | 3 | 5 |
| Gymnasium (PEM 111, 112, 113)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 18 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Sophomore Year

| | 1st | 2d | 3d |
|---|------------------------|------------------------|------------------------|
| Mensuration (F 221, 222, 223) | 4 | 4 | 4 |
| Tree Identification (F 253) ..... | ..... | ..... | 5 |
| Engineering Physics (Ph 111, 112, 113)..... | 3 | 3 | 3 |
| Introduction to Economics (ES 391) | 3 | ..... | ..... |
| Labor Problems (ES 301) ..... | ..... | 4 | ..... |
| Technical Composition (Eng 103) ..... | ..... | ..... | 3 |
| Topographical Surveying (CE 228) | 5 | ..... | ..... |
| Forest Survey and Mapping (F 224) ..... | ..... | 4 | ..... |
| Gymnasium (PEm 211, 212, 213) | $1\frac{1}{2}$ | $1\frac{1}{2}$ | $1\frac{1}{2}$ |
| Military Science and Tactics | 2 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

The following courses are recommended for junior and senior students who are working for a degree in General Forestry.

Junior Year

| | | | |
|---|----------|----------|----------|
| Identification of Woods (F 331) | 4 | ..... | ..... |
| Silviculture (F 342, 343) ..... | ..... | 4 | 4 |
| Advanced Business Law (PS 201, 202) | 4 | 4 | ..... |
| Introduction to Accounting (BA 101) ..... | ..... | ..... | 3 |
| Forest Administration (F 311) | 3 | ..... | ..... |
| Uses of Wood (F 332) ..... | ..... | 3 | ..... |
| Advanced Forest Mapping (F 326) ..... | ..... | ..... | 3 |
| National Government (PS 301) | 3 | ..... | ..... |
| State and Local Government (PS 302) ..... | ..... | 3 | ..... |
| Forest Protection (F 212) ..... | ..... | ..... | 4 |
| Electives | 3 | 3 | 3 |
| | <hr/> 17 | <hr/> 17 | <hr/> 17 |

Senior Year

| | | | |
|--|----------|----------|----------|
| Forest Finance (F 411, 412) | 5 | 5 | ..... |
| Economics of Lumber Industry (F 413) ..... | ..... | ..... | 5 |
| Dendrology (F 451, 452, 453) | 4 | 4 | 4 |
| Timber Technology (F 431, 432, 433) | 4 | 4 | 4 |
| Seminar (F 461, 462, 463) | 1 | 1 | 1 |
| Electives | 3 | 3 | 3 |
| | <hr/> 17 | <hr/> 17 | <hr/> 17 |

SUGGESTED ELECTIVES

General Forestry

| | | |
|--|-------|-------|
| Materials of Engineering (MM 311) | 3 | ..... |
| Transportation (ES 403) ..... | ..... | 4 |
| Money and Banking (ES 311) | 4 | ..... |
| Wood and Steel Structures (CE 488) | 3 | ..... |
| General Chemistry (Ch 101, 102, 103) | 3 | 3 |
| Range and Pasture Botany (Bot 341) | 2 | ..... |
| Forest Pathology (Bot 413) | 2 | ..... |
| Forest Management (F 416) ..... | ..... | 5 |
| Plant Ecology (Bot 442) ..... | ..... | 3 |
| Business Correspondence (Eng 105) | 3 | ..... |
| American Literature (Eng 431, 432) | 3 | 3 |
| General Geology (G 103) ..... | ..... | 3 |
| Forest Entomology (Ent 321) | 4 | ..... |
| Practical Public Speaking (PSP 254) ..... | ..... | 3 |

DEGREE CURRICULUM IN LOGGING ENGINEERING

Freshman and Sophomore Years

The work for these years is the same as that for the corresponding years in the General Forestry Curriculum.

The following courses are recommended for junior and senior students who are working for a degree in Logging Engineering.

Junior Year

| | 1st | Term | |
|---|-----|------|-----|
| | | 2d | 3d |
| Identification of Woods (F 331) | 4 | --- | --- |
| Uses of Wood (F 332) | --- | 3 | --- |
| Machine Shop (IA 363) | --- | --- | 3 |
| Advanced Business Law (PS 201, 202) | 4 | 4 | --- |
| Logging Machine Design (LE 483) | --- | --- | 3 |
| Logging Devices and Equipment (LE 481, 482) | 3 | 3 | --- |
| Bridge Design (LE 484) | --- | --- | 3 |
| National Government (PS 301) | 3 | --- | --- |
| State and Local Government (PS 302) | --- | 3 | --- |
| Principles of Accounting (BA 385) | --- | --- | 3 |
| Materials of Engineering (MM 311) | --- | 3 | --- |
| Forest Protection (F 212) | --- | --- | 4 |
| Electives | 3 | 2 | 2 |
| | 17 | 18 | 18 |

Senior Year

| | | | |
|--|-----|-----|-----|
| Timber Transportation (LE 371, 372, 373) | 5 | 5 | 5 |
| Forest Finance (F 411, 412) | 5 | 5 | --- |
| Economics of Lumber Industry (F 413) | --- | --- | 5 |
| Topographic Logging Plans (LE 471, 472, 473) | 5 | 5 | 5 |
| Electives | 2 | 2 | 2 |
| | 17 | 17 | 17 |

SUGGESTED ELECTIVES

Logging Engineering

| | | | |
|--|-----|-----|-----|
| Differential and Integral Calculus (Mth 251, 252, 253) | 4 | 4 | 4 |
| General Chemistry (Ch 101, 102, 103) | 3 | 3 | 3 |
| General Geology (G 103) | --- | --- | 3 |
| Logging Methods (LE 493) | --- | --- | 3 |
| Lumber Manufacture (LE 496) | --- | --- | 3 |
| Business Organization and Management (BA 381) | --- | 3 | --- |
| Cost Accounting (BA 203) | --- | --- | 3 |
| Seminar (F 461, 462, 463) | 1 | 1 | 1 |
| Steam and Gas Machinery (ME 233) | 3 | --- | --- |
| Efficiency Systems (F 316) | --- | --- | 5 |

Lumber Manufacture

Students who expect to enter some branch of the lumber manufacturing industry are advised to elect certain of the following courses during their junior and senior years.

| | 1st | Term | |
|--|-------|-------|--------|
| | | 2d | 3d |
| Identification of Woods (F 331)..... | 4 | ..... | ..... |
| Uses of Wood (F 332)..... | ..... | 3 | ..... |
| Advanced Business Law (PS 201,202)..... | 4 | 4 | or (4) |
| Forest Finance (F 411, 412)..... | 5 | 5 | ..... |
| Economics of the Lumber Industry (F 413)..... | ..... | ..... | 5 |
| Lumber Manufacture (LE 496)..... | ..... | ..... | 3 |
| Timber Technology (F 431, 432, 433)..... | 4 | 4 | 4 |
| Lumber Mill Studies (F 37X) (Field work)..... | 6 | ..... | ..... |
| Transportation (ES 403)..... | ..... | ..... | 4 |
| Money and Banking (ES 311)..... | 4 | ..... | ..... |
| Cost Accounting (BA 203)..... | ..... | ..... | 3 |
| Industrial Organization and Management (BA 381)..... | ..... | 3 | or (3) |
| Wood and Steel Structures (CE 488)..... | 3 | ..... | ..... |
| Strength of Materials (MM 353)..... | ..... | ..... | 3 |
| Mechanics (MM 351)..... | 3 | ..... | ..... |
| Machine Design (ME 411)..... | ..... | ..... | 3 |

Courses in degree curricula are designated by numbers of three digits in which the left-hand digit represents usually the year (as first, second, third, etc.) in which the course is normally pursued; the middle digit represents the group of related courses in the department to which the course belongs; and the right-hand digit represents the sequence of courses in cases where courses normally follow each other in succeeding terms. Courses in vocational curricula are numbered with two digits, the first generally representing the year in which the course is pursued, the second the sequence of the course.

Under each department descriptions of vocational courses are printed immediately after the descriptions of collegiate courses.

GENERAL FORESTRY COLLEGIATE COURSES

F 111. General Forestry. Preliminary survey of the whole field of forestry; origin and progress of scientific forestry; economic necessity of forestry; present forest wealth and possibilities of increasing it; forest ownership, private, state, and national; preliminary survey of state and national forest laws and policies; outline of national forest organization.

Required in Forestry and Logging Engineering; freshman year; first term; 4 credits; 4 lectures and recitations. Reference text: Moon and Browne, Elements of Forestry.

F 112. **General Forestry.** Responsibility of civilized man for the conservation of natural resources; vital interests of this Nation in its timber, coal, iron, oil, water, etc.; methods of insuring longest and best use of natural resources; conservation legislation.

Required in Forestry and Logging Engineering; freshman year; second term; 3 credits; 3 lectures and recitations. Reference text: Van Hise, Conservation of Natural Resources.

F 123. **Elementary Mensuration.** Federal survey system; identification of corners and lines; methods of covering the ground in timber cruising; pacing; instruments and devices used in measuring diameters and heights of trees; units of timber measurement; contents of felled timber; scale rules; simple plane table work.

Required in Forestry and Logging Engineering; freshman year; third term; 4 credits; 3 recitations; 1 three-hour laboratory period. Fee \$2.00. Reference text: U. S. Manual of Public Land Surveys.

F 212. **Forest Protection.** Protecting forests from fire; Federal, state, and private agencies; methods and equipment of prevention and control; forest insect control; forest pathology.

Elective in Forestry and Logging Engineering; sophomore year; third term; 4 credits; 4 lectures and recitations.

F 221. **Mensuration.** Topographic surveying of forested areas as basis for timber appraisal; keeping field notes; traversing; practice in surveying with aneroid barometer with the use of barograph as a checking instrument; execution of public land surveys; retracing surveyed lines in timber; section subdivisions.

Required in Forestry and Logging Engineering; sophomore year; first term; 4 credits; 3 recitations; 1 three-hour field or laboratory period. Fee \$2.00.

F 222. **Mensuration.** Volume tables and form factor tables for timber estimating; growth studies; yield tables; complete valuation surveys including application of methods; comparison between values derived in logging and mill cuts and estimates of standing timber; field work at the mills and in the woods; complete valuation survey and report on a given piece of timber; advanced work in the execution of topographic surveys on timbered areas; costs.

Required in Forestry and Logging Engineering; sophomore year; second term; 4 credits; 3 recitations; 1 three-hour field period. Fee \$2.00. Reference text: Chapman, Forest Mensuration.

F 223. **Mensuration.** Timber-land examinations as made by commercial cruising companies and by United States Forest Service;

cruising methods required by purchasers, operators, and bonding companies; complete valuation survey and report on a problem of practical value to some logging outfit.

Required in Forestry and Logging Engineering; sophomore year; third term; 4 credits; 2 recitations; 2 three-hour field periods. Fee \$2.00. Reference text: Chapman, Forest Mensuration.

F 224. **Forest Survey and Mapping.** Drill in detail of forest mapping; lettering and conventional signs; crayon and ink colorings in Forest Service and other standard legend; making of final reconnaissance and land classification maps; finishing maps; topographic and relief maps from field data; free-hand field sketching.

Required in Forestry and Logging Engineering; sophomore year; second term; 4 credits; 2 recitations; 2 two-hour laboratory periods. Fee \$2.00.

F 253. **Tree Identification.** Field characteristics and classification of timber trees of United States; their commercial range, local occurrence, size, growth, form, climate, soil, and moisture requirements; resistance; relative tolerance and reproduction. The fundamental purpose is to teach the student to identify commercial timber trees.

Required in Forestry and Logging Engineering; sophomore year; third term; 5 credits; 3 lectures; 3 three-hour laboratory or field periods. Fee \$2.00. Reference text: Sudworth, Trees of the Pacific Slope.

F 311. **Forest Administration.** Federal forests; Forest Service organization; national supervision; the district; the forest as an administrative unit; administration of state forests; private forests; discussion of fire prevention and control methods.

Required in Forestry; junior year; first term; 3 credits; 3 lectures and recitations.

F 316. **Efficiency Systems.** General discussion of efficiency systems; special application to lumber industry; cost-keeping systems and their comparative values; organization; cost keeping versus bookkeeping; bonus, merit, profit-sharing, and piece systems; labor problems as applied to logging industry; present-day labor management as practiced in modern logging operations.

Elective in Logging Engineering; junior year; third term; 5 credits; 5 lectures. Fee \$4.00.

F 326. **Advanced Forest Mapping.** Construction of topographic maps from data obtained by students in the field; trail tape, Abney hand level, aneroid and Forest Service compass used in securing field data; construction of relief maps; drill in lettering and finishing maps.

Required in Forestry; junior year; third term; 3 credits; 3 two-hour laboratory or field periods. Fee \$2.00.

F 331. Identification of Woods. Identification of important commercial woods; physical and structural properties; study of standard commercial grading rules; practical work in grading manufactured lumber.

Required in Forestry and Logging Engineering; junior year; first term; 4 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$2.00. Reference text: Record, Economic Woods.

F 332. Uses of Wood. Study of wood structure; adaptation to commercial uses; chief wood-using industries and relative amounts of principal commercial species used annually; adaptation of wood to special purposes; substitutes for wood; minor uses of wood, pulp, fiber, board, etc.; by-products.

Required in General Forestry and Logging Engineering; junior year; second term; 3 credits; 2 lectures; 1 two-hour laboratory period. Fee \$2.00. Reference text: Kellogg, Lumber and Its Uses.

F 334. Commercial Woods. Designed primarily to meet requirements of the woodworker in choosing species of wood best adapted to his needs, and in identifying woods commonly used; macroscopic and microscopic identification of different species; dendrology and its significance in wood technology; taxonomy, showing how trees are classed.

Required in Industrial Arts; junior year; third term; 3 credits; 2 lectures; 1 two-hour laboratory period. Fee \$2.00.

F 342. Silviculture. Art of establishing, developing, and reproducing trees; forest description; silvicultural system of cutting; marking trees for cutting; silvicultural management; improvement of woodlands; protection as related to silviculture; natural and artificial regeneration; nursery practice; planting.

Required in Forestry; junior year; second term; 4 credits; 3 recitations; 1 two-hour laboratory period. Fee \$2.00. Reference texts: Graves, Handling of Woodlands. Toumey, Seeding and Planting.

F 343. Advanced Silviculture. Practice of forestry in silvicultural regions of the United States; forest ecology; silvics, including the measure of tolerance, study of sample plots, economic possibilities of species, and reproduction characteristics; detailed silvical study of some definite forest tract.

Required in Forestry; junior year; third term; 4 credits; 3 recitations; 1 two-hour laboratory period. Fee \$2.00. Reference text: Toumey, Seeding and Planting.

F 37X. Field Work. Based upon practical work performed by the student between the sophomore and junior years or between the junior and senior years. Work must be done on some modern logging operation or in connection with some technical forestry work carried on by the State or by the Forest Service. A report based upon an approved outline must be submitted.

Elective in Forestry and Logging Engineering; junior or senior year; 1 to 6 credits.

F 411, 412. Forest Finance. Investments and costs in forest production; value of forest property for destructive lumbering and for continued timber production; appraisal of damages due to the destruction of forest property; forest taxation; stumpage values; comparison of forest values with agricultural values; timber bonds; ultimate ownership of forest lands.

Required in Forestry and Logging Engineering; senior year; first and second terms; 5 credits each term; 5 lectures and recitations. Reference text: Chapman, Forest Valuation.

F 413. Economics of the Lumber Industry. Brief history of lumbering in the United States; stumpage prices; prices of manufactured lumber; shifting centers of production; transportation; freight rates; the Interstate Commerce Commission and the lumber industry; substitutes and their effects; lumbermen's associations; present rate of consumption and the future supply; function of the Government in the future of the industry.

Required in Forestry and Logging Engineering; senior year; third term; 5 credits; 5 lectures and recitations.

F 416. Forest Management. Fundamental principles of mensuration, finance, organization, and administration reviewed and placed in their proper relationship to the whole scheme of forest management; emphasis on the study of sustained yield, regulation of cut, and on working plans.

Elective in Forestry; senior year; third term; 5 credits; 4 lectures; 1 two-hour conference period.

F 431. Timber Technology. Fundamental principles underlying seasoning and kiln drying of woods; kiln drying methods and their relative merits; effect of kiln drying upon wood structure; preservative treatment of timber, methods and results; manufacture of alcohol, turpentine, resin, tar, and other chemical products from wood; closer utilization of wood waste.

Required in Forestry; senior year; first term; 4 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$3.00.

F 432. **Timber Technology.** A continuation of F 431.

Required in Forestry; senior year; second term; 4 credits; 3 lectures; 1 two-hour laboratory period. Fee \$2.00.

F 433. **Timber Technology.** A continuation of F 432.

Required in Forestry; senior year; third term; 4 credits; 3 lectures; 1 two-hour laboratory period. Fee \$2.00.

F 451, 452, 453. **Dendrology.** Classification and identification of forest trees, including study of forest ecology and taxonomy; silvical characteristics and commercial species; life-history and requirements of trees.

Required in Forestry; senior year; first, second, and third terms; 4 credits each term; 2 recitations; 2 two-hour laboratory periods. Fee \$2.00 each term. Reference texts: Sudworth, Trees of the Pacific Slope. Sargent, Trees of North America.

F 461, 462, 463. **Seminar.** Preparation and discussion of reports of special subjects; current forestry and lumbering literature; labor problems. Each student is required to prepare a thesis on some assigned subject.

Required in Forestry; elective in Logging Engineering; senior year; first, second, and third terms; 1 credit each term; 1 two-hour conference period.

VOCATIONAL COURSES

(Credits in vocational courses are non-collegiate.)

F 11. **Forest Protection.** Causes of forest fires; methods of controlling forest fires; proper organization of fire patrol over definite areas; fire fighting devices; lookout stations, telephone lines, roads, and trails, with reference to fire control; different methods applicable to different regions.

Forester's Short Course; second term; 4 credits; 4 recitations.

F 16. **Forest Administration.** The organization of the Federal Forest Service; the District office; the National Forest; the State Forester's office; organization of the State work; forms used in the transaction of forest business; the preparation of reports.

Forester's Short Course; second term; 3 credits; 3 recitations.

F 21. **Forest Measurements.** Fundamental principles involved in computing the solid contents of logs and trees; method of constructing scale rules; height measures; forest service methods of cruising timber; other methods; discounts for defects; volume tables; practical demonstrations in the woods.

Forester's Short Course; second term; 4 credits; 2 recitations; 2 laboratory periods. Fee \$2.00.

F 24. Forest Surveying and Mapping. A study of the United States system of land surveys; retracing surveyed lines; methods employed in marking surveyed lines; use of the compass, the surveyor's chain, plane table, Abney hand level; practical field work in surveying; use of the aneroid barometer in topographic surveying; details of map making; conventional signs used in mapping.

Forester's Short Course; second term; 5 credits; 2 recitations; 3 laboratory periods. Fee \$2.00.

LOGGING ENGINEERING

COURSES

LE 37X. Field Work. Same as F 37X.

LE 371. Timber Transportation. Horse logging; chute and flume construction; pole roads; railroads adapted to logging operations.

Required in Logging Engineering; senior year; first term; 5 credits; 3 lectures; 2 three-hour laboratory periods. Fee \$4.00.

LE 372. Timber Transportation. Distinction between logging railroads and common carrier railroads; grades; alignment; railroad operation as applied to logging railroads; economic theory of location and construction.

Required in Logging Engineering; senior year; second term; 5 credits; 3 lectures; 2 three-hour laboratory periods. Fee \$4.00. Reference text: Wellington, Economic Theory of Railway Location.

LE 373. Timber Transportation. Structures and materials used in logging railroads, costs of surveys, construction, operation and maintenance; bridge and tunnel construction. Economics of construction and operation; financing and management; log driving; rafting.

Required in Logging Engineering; senior year; third term; 5 credits; 3 lectures; 2 three-hour laboratory periods. Fee \$4.00.

LE 471, 472, 473. Topographic Logging Plans. Plans for logging operations; making topographic map of timbered area; timber cruised and complete set of plans worked out, showing proper location of main-line logging railroads, railroad spurs, rollways or landings, pole roads, swing settings, logging area lines; estimates of costs.

Required in Logging Engineering; senior year; first, second, and third terms; 5 credits each term; 3 recitations; 2 three-hour field periods. Fee \$5.00 each term.

LE 481. Logging Devices and Equipment. Flume and chute construction; rigging; types of railroad locomotives, logging cars,

and trucks; donkey engines; skidding and loading devices; camp buildings, shops, dwellings; machine-shop machinery and tools; woods tools; railroad-track equipment and fixtures; oil, grease, packing and waste; water-supply systems; explosives; construction equipment; boilers, aerial tramways, snubbing devices; incline railroads; blocks and hooks, wire rope, logging dams, electrical machines used in logging; detailed investigation of costs and makes of equipment; aerial and high lead systems; economic value of using efficient equipment.

Required in Logging Engineering; senior year; first term; 3 credits; 1 lecture; 2 three-hour laboratory periods. Fee \$4.00.

LE 482. Logging Devices and Equipment. A continuation of LE 481.

Required in Logging Engineering; senior year; 3 credits; 1 lecture; 2 two-hour laboratory periods. Fee \$3.00.

LE 483. Logging Machine Design. Designing logging equipment and rigging and tools; instruction in preparation of working plans for machine shop and foundry construction; making drawings of standard woods tools and railroad equipment constructed in mill and camp shops.

Required in Logging Engineering; junior year; third term; 3 credits; 1 lecture; 2 two-hour laboratory periods. Fee \$4.00.

LE 484. Bridge Design. Principles of the design of wood structures as applied to logging railway traffic; a review of stresses in simple trusses and of graphic statics; details, specifications, estimates for through and deck forms of Pratt truss.

Required in Logging Engineering; junior year; third term; 3 credits; 1 recitation; 2 two-hour laboratory periods. Fee \$3.00.

LE 493. Logging Methods. Yarding, skidding, and loading of logs by all known methods; falling and bucking; relative merits of various methods; all known methods of handling timber from the standing tree to the mill.

Elective in Logging Engineering; senior year; third term; 3 credits; 3 lectures.

LE 496. Lumber Manufacture. Discussion of various types of modern mills; manufacture of secondary products; electrical versus steam mills; lumber-handling devices; examinations of up-to-date mills and reports on them.

Elective in Logging Engineering; senior year; third term; 3 credits; 2 lectures; 1 two-hour laboratory period.

School of Home Economics

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.
AVA BERTHA MILAM, Ph.B., A.M., Dean of the School of Home Economics.
GENEVA ALICE FEIKE, B.Sc., Secretary to the Dean.

Home Economics Education

BERTHA STEWART DAVIS, M.S., Associate Professor of Home Economics Education.
HATTY ROSELLE DAHLBERG, B.Sc., A.M., Associate Professor of Home Economics Education.
LURA AMELIA KEISER, B.Sc., Instructor in Home Economics Education.
GLADYS WHIPPLE, B.Sc., Instructor in Home Economics Education.

Household Administration

ALMA GRACE JOHNSON, B.Sc., Professor of Household Administration.
KATHERINE BARBARA HAIGHT, R.N., Instructor in Household Administration.
SARA WATT PRENTISS, B.Sc., Instructor in Household Administration.
EMMA SKINNER WELD, Ph.B., Instructor in Household Administration.

Household Art

HELEN LEE DAVIS, A.B., B.Sc., Professor of Household Art.
LILA MORRIS O'NEALE, A.B., B.Sc., Assistant Professor of Household Art.
MARGARET MOREHOUSE, B.Sc., Instructor in Household Art.
JESSIE BILES, A.B., Instructor in Household Art.
MARY VAN KIRK, Instructor in Household Art.
ALMA CATHERINE FRITCHOFF, A.B., Instructor in Household Art.
HELEN McFAUL, B.A., Instructor in Household Art.
LULA MAY BRANDT, B.Sc., Instructor in Household Art.
MARION HODGSON, B.Sc., Instructor in Household Art.
GERTRUDE STRICKLAND, Instructor in Household Art.
BLANCHE STEVENS, B.Sc., Instructor in Household Art.

Household Science

MYRTLE FERGUSON, B.Sc., Professor of Household Science.
AMELIA BURNS, B.Sc., Instructor in Household Science.
RUTH KENNEDY, B.Sc., Instructor in Household Science.
BERNICE CORNELIA WAIT, M.S., Instructor in Household Science.
LILLIAN CATHERINE TAYLOR, B.Sc., Instructor in Household Science.

Institutional Management

SIBYLLA HADWEN, Professor of Institutional Management; Director of Women's Dormitories.

MELISSA HUNTER, B.Sc., Instructor in Institutional Management; Assistant Director of Women's Dormitories.

WINIFRED HAZEN, B.Sc., Assistant Instructor in Institutional Management.

*Basic Arts and Sciences**

M. ELLWOOD SMITH, Ph.D., Dean of the School of Basic Arts and Sciences; Director of the Summer Session.

FREDERICK BERCHTOLD, A.M., Professor of English Language and Literature.

JOHN B. HORNER, A.M., Litt.D., Professor of History.

FARLEY DOTY McLOUTH, B.Sc., Professor of Art.

LOUIS BACH, M.A., Professor of Modern Languages.

GODFREY VERNON COPSON, M.S., Professor of Bacteriology.

NATHAN FASTEN, Ph.D., Professor of Zoology and Physiology.

CHARLES BUREN MITCHELL, A.M., Professor of Public Speaking.

WILLIAM HENRY ELLISON, Ph.D., Associate Professor of History.

WALTER SCOTT, Ph.D., Associate Professor of Chemistry.

LOREN BURTON BALDWIN, A.M., Assistant Professor of English.

HELEN MARGARET GILKEY, Ph.D., Assistant Professor of Botany.

JOSEPH ELLSWORTH SIMMONS, M.S., Assistant Professor of Bacteriology.

FRANCIS HENRY THURBER, M.A., Assistant Professor of Organic Chemistry.

GERTRUDE EWING McELFRESH, A.B., B.Sc., Instructor in English.

MELISSA MARGARET MARTIN, A.B., B.Sc., Instructor in Modern Languages.

ETHEL TAYLOR, A.B., Instructor in Modern Languages.

HUGH SILBAUGH, B.Sc., Instructor in English.

FREDERICK HENRY BERNS, Instructor in Art.

OSMAN HORACE CADY, M.S., Instructor in Chemistry.

MARY LOUISE PRICE, M.S., Instructor in Chemistry.

JAMES ALEXANDER BERRY, M.S., Instructor in Bacteriology.

MARJORIE BALTZELL, Instructor in Art.

FRED JOHN ALLEN, M.S., Instructor in Chemistry.

CYRIL EVAN FARRAND, B.Sc., Instructor in Chemistry.

FLORENCE HAGUE, Ph.D., Instructor in Zoology and Physiology.

NORMA OLSON, Instructor in Expression and Dramatics.

*Here are listed members of other faculties offering instruction open to students in Home Economics.

MAUDE TURLAY PARR, Instructor in Physics.
ABRAHAM SCHWARTZ, B.Sc., Instructor in Chemistry.
MARGARET STASON, M.S., Instructor in Botany.
HARRY HOWARD TUCKER, A.B., Instructor in English.
THOMAS WATSON, M.A., A.I.C., Instructor in Chemistry.

*Other Schools and Departments**

EDWIN DeVORE RESSLER, A.M., Dean of the School of Vocational Education.
MARY ANNETTE ROLFE, M.A., Dean of Women.
HECTOR MACPHERSON, Ph.D., Professor of Economics and Sociology.
ULYSSES GRANT DUBACH, Ph.D., Professor of Government and Business Law.
JESSE FRANKLIN BRUMBAUGH, A.M., LL.B., Professor of Psychology.
EDNA AGNES COCKS, M.A., Professor of Physical Education for Women.
NEWEL HOWLAND COMISH, M.S., Professor of Economics.
LUCY MAY LEWIS, A.B., B.L.S., Librarian.
FRANK ABBOTT MAGRUDER, Ph.D., Associate Professor of Government and Business Law.
ERWIN BERTRAN LEMON, B.Sc., Associate Professor of Accounting.
WILLIAM HENRY DREESEN, Ph.D., Assistant Professor of Economics and Sociology.
ETHA MABEL MAGINNIS, Assistant Professor of Office Training.
DORIS MABEL THORNELY, Assistant Professor of Physical Education for Women.
BERTHA ALICE WHILLOCK, B.Sc., Instructor in Office Training.
ALFRED WEAVER OLIVER, B.Sc., Instructor in Animal Husbandry.
MINNIE CLARA KOOPMAN, B.Sc., Instructor in Office Training.

Curricula. The School of Home Economics offers the following curricula: two four-year curricula each leading to the degree of Bachelor of Science; a graduate curriculum leading to the degree of Master of Science; a one-year curriculum for institutional managers; and six-week courses in the Summer Session.

Fundamentally, the young women in the School of Home Economics are offered such training as will help them to adjust themselves readily to their environment. That the young women completing this work may be good citizens as well as good homemakers, the curricula in the School of Home Economics have been planned to give a liberal as well as a technical education.

*Here are listed members of other faculties offering instruction open to students in Home Economics.

Opportunities for teaching Home Economics in high schools and colleges; in the grade schools of cities; in the consolidated community schools of progressive rural communities; and in Smith-Hughes full-time, part-time, and continuation schools, are constantly increasing and becoming more desirable. Facilities for specializing in this work at the College are therefore given special attention. Many opportunities are open to mature women capable of solving the problems of good food service for large numbers of people, and for experts in the management of large institutions. Equally attractive opportunities are available for the expert needle-woman, the tasteful designer of gowns, the competent dressmaker or milliner, buyers and testers of textile materials, and the woman with artistic resources as a household decorator and furnisher.

More and more the life of the modern community is dependent upon institutions. Women are rapidly entering upon service as executive and administrative leaders in the important functions of these institutions. Hospitals, institutional homes, educational institutions, and social centers are increasingly demanding the services of mature women of skilled technical accomplishments. There is a growing demand for dietitians in hospitals and large institutions, in the Red Cross service, and as managers of cafeterias and tea-rooms. The training in dietetics and management offered the young women by the School of Home Economics gives both liberal and practical preparation for such service. The textile and clothing courses, together with art and science training, give a good foundation for various lines of laboratory, research, testing, buying, and inspecting work.

With the establishment of the College Practice House, Household Management is being more effectively taught than was formerly possible. Institutional Management is being developed by practical work given in tea-room management, catering, and dormitory practice.

Quartered in a new building, provided with a thoroughly modern heating, ventilating, and sanitary system, and equipped with the most approved facilities for conducting the work of the various departments, the School of Home Economics is in a very fortunate position for making its courses of the utmost value, not only to its resident students, but to the communities of the State at large wherever its extension activities may penetrate.

Requirements for Graduation. For the bachelor's degree in Home Economics, a minimum of 192 college credits must be completed. The subjects for the freshman and sophomore years are prescribed. The subjects for the junior and senior years are in part prescribed, the remaining credits being elective.

Degree Curricula in Home Economics. The School of Home Economics offers two main curricula leading to the bachelor's degree:

I. A Professional Curriculum, including principally technical courses, for those desiring not only preparation for homemaking, but also to qualify for positions as teachers of Household Science and Household Art, extension workers, or institutional managers. The first two years, as prescribed, give the necessary foundation for any one of these occupations; the junior and senior years are in part elective, making possible specialization in any one of these departments. The required and elective courses are so adjusted that the student may obtain thorough technical preparation and at the same time benefit by the broad training which any undergraduate course of study should afford. This curriculum fulfills the requirements of the State Board for Vocational Education for the training of Smith-Hughes teachers.

II. A General Curriculum, less severely technical, and allowing for liberal electives, for those desiring preparation in the problems of homemaking, together with considerable freedom in electing courses in other fields.

One-Year Institutional Management Curriculum. This curriculum is offered to students whose maturity or experience qualifies them for positions of responsibility and trust and whose academic training is the equivalent of a full high school course. It is preferred that applicants should be not less than twenty-five years of age. The course is recommended to mature women who wish to undertake the care of college dormitories, cafeterias, tea-rooms, or other institutional or commercial work. To obtain the Institutional Management Certificate fifty credits are required and six months of practical field work. A student in this course especially interested in the food side should choose additional work in dietetics.

Admission. Detailed statements of entrance requirements, routine of registration, etc., are given in the special bulletin on "General Information," which is furnished on application. Requirements for admission to the various curricula of the School of Home Economics are as follows:

Degree curricula: Applicants must be at least 16 years of age and must have completed 15 units of work in a secondary school recognized as standard, these units to include (a) at least 3 units of English, and 1 unit each of Elementary Algebra and Plane Geometry; together with (b) 6 additional units to be selected without restriction from among the following subjects: English, Mathematics, Foreign Languages, Laboratory Sciences, and History (including Civics); and (c) 4 units selected from subjects accepted for graduation in standard high schools of Oregon.

Graduate Curriculum: Applicants must be holders of the bachelor's degree from the Oregon Agricultural College or other college of equal rank.

PROFESSIONAL CURRICULUM IN HOME ECONOMICS

Freshman Year

| | Term | | |
|--|------|------|------|
| | 1st | 2d | 3d |
| General Chemistry (Ch 101, 102, 103)..... | 3 | 3 | 3 |
| Clothing and Textiles (HA 111, 112, 113)..... | 4 | 4 | 4 |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| Drawing and Composition (A 110), Design (A 120), Color Harmony (A 130)..... | 3 | 3 | 3 |
| Social Ethics (PEW 121), Hygiene (PEW 122)..... | 1 | 1 | .... |
| Introduction to Home Economics (HAd 100)..... | .... | 1 | .... |
| Library Practice (Lib 100)..... | .... | .... | 1 |
| Gymnasium (PEW 111, 112, 113)..... | 1 | 1 | 1 |
| | 15 | 16 | 15 |

Sophomore Year

| | | | |
|---|------|------|------|
| Organic Chemistry (Ch 221)..... | 5 | .... | .... |
| Chemistry of Foods and Digestion (Ch 222, 223) ..... | .... | 2½ | 2½ |
| General Physics (Ph 292, 293) ..... | .... | 2½ | 2½ |
| Principles of Botany, Pt II (Bot 203)..... | 3 | .... | .... |
| General Bacteriology (Bac 204, 205)..... | .... | 3 | 3 |
| Food Selection and Preparation (HS 211, 212, 213) | 4 | 4 | 4 |
| ①English or Modern Language..... | 3 | 3 | 3 |
| Gymnasium (PEW 211, 212, 213)..... | 1 | 1 | 1 |
| | 16 | 16 | 16 |

Junior Year

| | | | |
|--|------|------|------|
| Elementary Psychology (Psy 301) | 3 | .... | .... |
| Elements of Physiology (ZP 321)..... | 5 | .... | .... |
| Housewifery (HAd 310)..... | .... | 3 | .... |
| Costume Design (HA 331)..... | 3 | .... | .... |
| Advanced Clothing and Textiles (HA 311)..... | .... | 5 | .... |
| Home Sanitation (HAd 300) ..... | .... | 3 | .... |
| Child Care (HAd 320)..... | .... | .... | 3 |
| Nutrition (HS 320) ..... | .... | .... | 5 |
| Business Management for Women (BA 371)..... | .... | .... | 3 |
| Design and Color Use (A 333)..... | 3 | .... | .... |
| Electives | 3 | 6 | 5 |
| | 17 | 17 | 16 |

①If a modern language is elected, two years of one language will be expected.

Senior Year

| | 1st | Term 2d | 3d |
|--|-------|------------|-------|
| Introduction to Economics (ES 391) | 3 | ..... | ..... |
| Introduction to Sociology (ES 393) ..... | ..... | ..... | 3 |
| Home Nursing (HAD 430) | 3 | ..... | ..... |
| National Government (PS 301) ..... | ..... | 3 | ..... |
| House Decoration (HA 431) ..... | ..... | 3 | ..... |
| Electives | 10 | 10 | 13 |
| | 16 | 16 | 16 |

Students training for extension work should elect Rural Sociology, Public Speaking, Methods of Demonstration, Vegetable Gardening, Poultry Raising, Industrial Journalism, etc.

Twenty-two and one-half credits in Education are required for a teaching certificate in Oregon. Students planning to teach in Smith-Hughes schools must have 12 instead of 6 weeks of practice teaching. Practice Housekeeping (HAD 450) and Household Management (HAD 440) are required of prospective Smith-Hughes teachers.

SUGGESTED ELECTIVES

| | |
|--|---|
| Commercial Geography (ES 101) | 4 |
| Economic History of Europe (ES 111) | 4 |
| Economic History of United States (ES 201) | 3 |
| International Relations (PS 401) | 4 |
| Elementary Industrial Journalism (IJ 200) | 3 |
| Practical Public Speaking (PSP 254) | 3 |
| European History (Hst 212 or 213) | 3 |
| Representative Men and Women (Hst 351) | 3 |
| American Diplomatic History (Hst 421) | 3 |
| English (Eng 212 or 431 or 443) | 3 |

SUGGESTED DEPARTMENTAL COMBINATIONS

HOUSEHOLD ADMINISTRATION

*Major**Minor*

| | | | |
|---|---|---------------------------------------|----|
| Intro. to H. Econ (HAD 100)..... | 1 | Intro. to H. Econ (HAD 100)..... | 1 |
| Home Sanitation (HAD 300)..... | 3 | Home Sanitation (HAD 300)..... | 3 |
| Housewifery (HAD 310)..... | 3 | Housewifery (HAD 310)..... | 3 |
| Child Care (HAD 320)..... | 3 | Child Care (HAD 320)..... | 3 |
| Home Nursing (HAD 430)..... | 3 | Home Nursing (HAD 430)..... | 3 |
| Household Management (HAD 440) | 3 | Household Management (HAD 440) | 3 |
| Practice Housekeeping (HAD 450) | 4 | Practice Housekeeping (HAD 450) | 4 |
| Food Selection and Preparation (HS 211) | 4 | | |
| Food Selection and Preparation (HS 212) | 4 | | 20 |
| Food Selection and Preparation (HS 213) | 4 | | |
| Nutrition (HS 320) | 5 | | |
| House Decoration (HA 431)..... | 3 | | |

HOUSEHOLD ART

| <i>Major</i> | | <i>Minor</i> | |
|--|----|---|----|
| Clothing and Textiles (HA 111) | 4 | Clothing and Textiles (HA 111) | 4 |
| Clothing and Textiles (HA 112) | 4 | Clothing and Textiles (HA 112) | 4 |
| Clothing and Textiles (HA 113) | 4 | Clothing and Textiles (HA 113) | 4 |
| Adv. Clothing and Textiles (HA 311)..... | 5 | Adv. Clothing and Textiles (HA 311)..... | 5 |
| Advanced Textiles (HA 316)..... | 3 | Advanced Textiles (HA 316)..... | 3 |
| Beginning Millinery (HA 321)..... | 3 | Costume Design (HA 331)..... | 3 |
| Costume Design (HA 331)..... | 3 | | — |
| Dress Design (HA 411)..... | 4 | | 23 |
| House Decoration (HA 431)..... | 3 | | |
| Trade Course in Dressmaking (HA 412)..... | 3 | | |
| Applied Design (HA 435)..... | 3 | | |
| | 39 | | |

INSTITUTIONAL MANAGEMENT

Students training for institutional management work should elect the following courses:

| | |
|---|----|
| Large Quantity Cookery and Marketing (IM 310)..... | 3 |
| Institutional Management Experience (IM 330)..... | 3 |
| Elementary Typing (OT 111), Intermediate Typing (OT 112)..... | 4 |
| Methods of Demonstration (HS 430)..... | 1 |
| Tea-room Management (IM 430)..... | 5 |
| Advanced Institutional Management (IM 431)..... | 2 |
| Advanced Institutional Management Practice (IM 432)..... | 3 |
| Introduction to Accounting (BA 101)..... | 3 |
| Accounting Practice (BA 103)..... | 3 |
| Principles of Accounting (BA 102)..... | 3 |
| | 30 |

HOUSEHOLD SCIENCE

| <i>Major</i> | | <i>Minor</i> | |
|--|----|---|----|
| Food Selection and Preparation (HS 211)..... | 4 | Food Selection and Preparation (HS 211)..... | 4 |
| Food Selection and Preparation (HS 212)..... | 4 | Food Selection and Preparation (HS 212)..... | 4 |
| Food Selection and Preparation (HS 213)..... | 4 | Food Selection and Preparation (HS 213)..... | 4 |
| Dietetics (HS 320)..... | 5 | Nutrition (HS 320)..... | 5 |
| Diet in Disease (HS 420)..... | 2 | Household Management (HAD 440)..... | 3 |
| Methods of Demonstration (HS 430)..... | 1 | | — |
| Experimental Cookery (HS 435) | 2 | | 20 |
| Advanced Institutional Manage- ment (IM 431)..... | 2 | | |
| Tea-room Management (IM 430) | 5 | | |
| Household Management (HAD 440)..... | 3 | | |
| Practice Housekeeping (HAD 450)..... | 4 | | |
| | 36 | | |

GENERAL CURRICULUM IN HOME ECONOMICS

Freshman Year

Term

| | 1st | 2d | 3d |
|---|-----|-----|-----|
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| ①Science | 3 | 3 | 3 |
| ②Modern Language, Mathematics, or Science | 3 | 3 | 3 |
| Social Ethics (PEW 121), Hygiene (PEW 122)..... | 1 | 1 | --- |
| Library Practice (Lib 100)..... | --- | 1 | --- |
| Introduction to Home Economics (HAD 100)..... | --- | --- | 1 |
| Gymnasium (PEW 111, 112, 113)..... | 1 | 1 | 1 |
| ③Electives | 5 | 5 | 5 |
| | 16 | 17 | 16 |

Sophomore Year

| | | | |
|--|----|----|----|
| English | 3 | 3 | 3 |
| Modern Language, Mathematics, or Science | 3 | 3 | 3 |
| Economics and Sociology | 3 | 3 | 3 |
| Gymnasium (PEW 121, 122, 123)..... | 1 | 1 | 1 |
| History (Hst 212, 213, 351) | 3 | 3 | 3 |
| ③Electives | 3 | 3 | 3 |
| | 16 | 16 | 16 |

Junior and Senior Years

For a degree in Home Economics 192 credits are required, not more than one-third of which may be in Home Economics. The following thirty-six Home Economics credits are required in the General Curriculum:

Credits

| | |
|--|----|
| Clothing and Textiles (HA 108, 109, 110) (for students not electing Art) 12 | |
| or | |
| Clothing and Textiles (HA 111, 112, 113) (for students electing Art).. 12 | |
| Food Selection and Preparation (HS 203, 204), Elementary Nutrition (HS 205) | 12 |
| or for those preferring more Household Science work | |
| Food Selection and Preparation (HS 211, 212, 213), Nutrition (HS 320), (for students electing Organic Chemistry) | 12 |
| Housewifery (HAD 310) | 3 |
| Child Care (HAD 325) | 3 |
| Management of the Home (HAD 141) | 3 |
| Home Nursing (HAD 435) | 3 |
| | 36 |

①Nine credits in one science are required for graduation.

②If a modern language is chosen, at least two consecutive years of that language should be completed. Two elementary language courses may not be taken in the same year.

③Exclusive of the 36 credits required in Home Economics a student in choosing electives must complete the equivalent of consecutive study aggregating twenty-four credits in two departments. These may be distributed equally between the two departments, or not less than eight credits in one and the remainder in the other.

Provided prerequisites have been taken, these electives may be chosen from Home Economics subjects required in the junior and senior years.

MINOR IN COMMERCE

Students in Home Economics who wish a minor in Commerce should take the following courses as suggested by the Dean of the School of Commerce:

| Freshman Year | | Term | | |
|---|--|------|----|----|
| | | 1st | 2d | 3d |
| Accounting (BA 101, 102, 103) | | 3 | 3 | 3 |
| or— | | | | |
| Stenography (OT 101, 102, 103), Typing (OT 111, 112, 113) | | 5 | 5 | 5 |

Sophomore Year

| | | | |
|--|---|---|---|
| Accounting (BA 201, 202, 203) | 3 | 3 | 3 |
| or— | | | |
| Typing (OT 111, 112, 113) | 2 | 2 | 2 |
| or— | | | |
| Accounting (BA 201, 202, 203) | 3 | 3 | 3 |
| or— | | | |
| Applied Stenography and Typing, Office Training for Stenographers (OT 201, 202, 203) | 5 | 5 | 5 |

MINOR IN PHYSICAL EDUCATION

Junior Year

| | | | |
|--|-----|-----|-----|
| Elementary Aesthetic Dancing (PEW 131a, 132a, 133a) | 1½ | 1½ | 1½ |
| Advanced Outdoor Sports (PEW 241, 242, 243) | 1½ | 1½ | 1½ |
| Elementary Folk Dancing (PEW 131b, 132b, 133b) | 1½ | 1½ | 1½ |
| Apparatus Work (PEW 137, 138, 139) | 1½ | 1½ | 1½ |
| Organization and Administration of Physical Education and Recreation (PEW 472) | --- | 3 | --- |
| Theory and Coaching of Athletic Sports (PEW 376) | --- | --- | 3 |
| | 2 | 5 | 5 |

Senior Year

| | | | |
|--|-----|-----|-----|
| General Zoology (ZP 101, 102, 103) | 3 | 3 | 3 |
| Playground and Gymnastic Games (PEW 375) | --- | 3 | --- |
| History of Physical Education (PEW 431) | 3 | --- | --- |
| Principles of Physical Education (PEW 461, 462, 463) | 3 | 3 | 3 |
| Advanced Hygiene and Sanitary Science (PEW 423) | --- | --- | 2 |
| Physical Diagnosis and Anthropometry (PEW 443) | --- | --- | 3 |
| Advanced Gymnastics (PEW 311, 312, 313) | 1½ | 1½ | 1½ |
| Swimming (PEW 151, 152, 153) | 1½ | 1½ | 1½ |
| Electives | --- | --- | 1 |
| | 10 | 10 | 13 |

ONE-YEAR INSTITUTIONAL MANAGEMENT

CURRICULUM

| | Term | | |
|---|------|------|------|
| | 1st | 2d | 3d |
| Science Option (Chemistry or Physics)..... | 3 | 3 | 3 |
| Principles of Foods and Cookery (HS 101) | 4 | .... | .... |
| Large Quantity Cookery and Marketing (IM 310) | 3 | .... | .... |
| Home Sanitation (HAd 300) | 3 | .... | .... |
| Business Management for Women (BA 371)..... | .... | 2 | .... |
| Meats (AH 475) ..... | .... | 1 | .... |
| Tea-room Management (IM 430)..... | .... | 5 | .... |
| Institutional Management Experience (IM 330)..... | .... | 3 | .... |
| Advanced Institutional Management (IM 431)..... | .... | 2 | .... |
| Advanced Institutional Management Practice (IM 432) ..... | .... | .... | 3 |
| English Composition (English 101)..... | 3 | .... | .... |
| Home Nursing (HAd 430)..... | .... | .... | 3 |
| ①Business Correspondence (Eng 105)..... | .... | .... | 3 |
| House Decoration (HA 431)..... | .... | .... | 3 |
| Elective ..... | .... | .... | 1 |
| | 16 | 16 | 16 |

Courses in degree curricula are designated by numbers of three digits in which the left-hand digit represents usually the year (as first, second, third, etc.) in which the course is normally pursued; the middle digit represents the group of related courses in the department to which the course belongs; and the right-hand digit represents the sequence of courses in cases where courses normally follow each other in succeeding terms.

HOME ECONOMICS EDUCATION

The function of this department is to give professional training to prospective teachers and extension workers in Home Economics.

COURSES

Hed 304. Secondary Education in Home Economics. A brief history of Home Economics instruction and of the development of elementary and secondary Home Economics; equipment and organization of Home Economics departments; a careful study of the means and methods of Home Economics instruction; outlines of course of study.

Required of all students preparing to teach Home Economics; junior year (second or third term) or senior year (first term); 3 credits; 3 recitations.

Hatty R. Dahlberg

①Prerequisite: Eng 101 or equivalent.

HEd 305. Secondary Education in Home Economics. Observation of teaching, making of lesson plans; study of special problems and the preparation and collection of illustrative material.

Prerequisites: HEd 304, Psy 301. Required of all students preparing to teach Home Economics; junior year (third term) or senior year (first or second term); 3 credits; 3 recitations.

Hatty R. Dahlberg

HEd 421. Supervised Teaching in Home Economics. Observation and teaching under supervision. Teaching field includes grades and high school in city, small town, and rural district. Cadet or apprentice positions provide additional experience.

Prerequisite: HEd 305. Required of all students preparing to teach Home Economics; senior year; any term; 5 credits; 2 recitations; 5 double periods supervised teaching.

Hatty R. Dahlberg, Lura Keiser, Gladys Whipple

HEd 422. Supervised Teaching in Home Economics. Continuation of HEd 421. An advanced course.

Prerequisite: HEd 421 or teaching experience. Elective; senior year; any term; 3 credits; 5 periods teaching.

Hatty R. Dahlberg, Lura Keiser, Gladys Whipple

HEd 443. Extension Methods. This course is planned to give to successful teachers and others qualified and interested in extension work, the extension aim and point of view, presenting a discussion of organization and administration, executive problems, relationships, methods of work, and programs.

Elective; senior year; third term; 2 credits; 2 lectures; 4 hours outside preparation.

Jessie Biles

HOUSEHOLD ADMINISTRATION

Equipment. The department has offices, classrooms and laboratories in the Home Economics Building. A well-equipped and self-supporting Practice House where students may study concrete problems of home management, is located on the campus.

COURSES

HAd 100. Introduction to Home Economics. A course for beginning students. Purpose, value, and scope of Home Economics.

Required in Home Economics; freshman year; first or second term; 1 credit; 1 lecture.

Ava B. Milam

HAd 141. Management of the Home. (To meet the needs of students in the General Curriculum in Home Economics and students from other schools, as Commerce, etc. Students in the Pro-

Professional Curriculum in Home Economics should take HAd 440.) The management of the home; finances; operations; family relations.

Elective to students in School of Commerce and other departments; freshman year; any term; 3 credits; 3 recitations. Fee \$0.50.

HAd 300. Home Sanitation. Investigation of sanitary principles and conditions from the practical and scientific standpoints with special reference to the needs of the household, the school, and the community.

Prerequisites (or parallel): Bac 205, Ph 200. Required in Home Economics; junior year; any term; 3 credits; 3 recitations. Fee \$0.50.

Emma S. Weld

HAd 310. Housewifery. An application of chemistry, physics, and economics to the care of the house and its furnishings.

Required in Home Economics; junior year; any term; 3 credits; 3 two-hour laboratory periods. Fee \$2.00.

Emma S. Weld

HAd 320. Child Care. Development of the child from the time of conception, through infancy, childhood, and adolescence; eugenics; prenatal care; habit formation; proper feeding; child welfare; responsibility of parenthood.

Prerequisites (or parallel): ZP 321, HS 213. Required in Home Economics; junior year; any term; 3 credits; 3 lectures. Fee \$0.50.

Mrs. Sara W. Prentiss

HAd 325. Child Care. (To meet the needs of students in the General Curriculum in Home Economics. Students in the Professional Curriculum in Home Economics should take HAd 320.) A study of growth and development of child through prenatal period; infancy, childhood, and adolescence; factors influencing.

Elective to students in School of Commerce and other departments; junior year; 3 credits; any term; 3 recitations. Fee \$0.50.

HAd 430. Home Nursing. Care of the patient under home conditions; symptoms; first aid; management of communicable diseases.

Prerequisites: ZP 321, Bac 205. Required in Home Economics, senior year; any term; 3 credits; 3 recitations. Fee \$0.50.

Mrs. Katherine B. Haight

HAd 435. Home Nursing. (To meet the needs of students in the General Curriculum in Home Economics. Students in the Professional Curriculum in Home Economics should take HAd 430.) Care of patient in home; demonstrations of ordinary nursing procedure; home substitutes; bandaging; emergencies; discussion of common diseases.

Elective to students in School of Commerce and other departments; senior year; any term; 3 credits; 3 recitations. Fee \$0.50.

HAd 440. Household Management. (Parallel or precedes Practice Housekeeping, HAd 450.) An application of the principles of scientific management to the home; study of the management of household operations and finances; family and community relationships.

Elective in Home Economics; junior or senior year; any term; 3 credits; 3 recitations. Fee \$0.50. *A. Grace Johnson*

HAd 450. Practice Housekeeping. (Parallel or follows HAd 440.) A course dealing with the problems of the homemaker. Students live in the College Practice House for six weeks and put into practice the training received in all other Home Economics or related courses. (For students in Professional Curriculum.)

Prerequisites: HAd 310, 320; HS 320, or equivalent. Elective in Home Economics; junior or senior year; any term; 4 credits; 3 hours work daily. Fee \$6.00 a week for living expenses.

A. Grace Johnson

HAd 691, 692, 693. Modern Problems in Household Administration. Chemical, physiological, bacteriological, economic, or sociological topics, according to the preference and training of the individual students, are investigated under the direction of the instructors in the several departments concerned.

Prerequisite: HAd 440. Elective in Home Economics; senior or graduate year; three terms; credits and hours to be arranged.

HOUSEHOLD ART

Equipment. The department has offices, classrooms, and laboratories in the Home Economics Building. All necessary furnishings and equipment are available for thorough instruction in textiles, sewing, dressmaking, tailoring, costume design, applied design, millinery, and house decoration.

COURSES

CLOTHING AND TEXTILES

HA 101. Elementary Clothing and Textiles. Fundamental processes of hand and machine sewing applied to the designing and constructing of undergarments and simple dresses, to repairing, and to decorative needlework; textile discussions.

Required of students in Home Economics who have had no high school sewing; freshman year; first term; 3 credits; 4 two-hour laboratory periods. Fee \$1.50.

HA 108, 109, 110. Clothing and Textiles. (These courses are designed for students registered in the General Curriculum in Home Economics; for those registered in other schools as School of Commerce, Pharmacy, etc.; and for Special students. Students with no previous training in clothing are required to take HA 101 as a prerequisite to these courses.) Clothing and textile study to assist the homemaker in her selection, use, and care of clothing and home-furnishing materials; principles of art applied to dress; laboratory work planned to give the student practical experience in all needle problems that are met in the home; use of dress form; construction of wash dresses and children's clothes; designing and construction of wool and silk dresses; remodeling.

Four credits each term; 2 lectures; 6 hours laboratory work; 4 hours preparation. Fee \$1.50 each term.

HA 111. Clothing and Textiles. (For freshmen who have had one year or more of sewing in accredited high schools. Students not able to carry this work successfully are required to take HA 101.) Preparation and use of dress form; use and adaptation of commercial patterns; design and construction of cotton or linen skirts, blouses, and dresses. One problem to develop speed. Materials, design and decoration from standpoint of appropriateness, economy, and beauty. Textile study to include the development of the textile industry; and the study of cotton relative to its use in the home and for clothing purposes.

Required in Home Economics; freshman year; first or second term; 4 credits; 2 lectures; 2 three-hour laboratory periods. Fee \$1.50.

HA 112. Clothing and Textiles. Design and construction of simple cotton or linen and wool dresses for school or street wear; children's clothes, emphasis on design, appropriate decoration, and technique. Practical textile study of linen, including household linens and wool; to develop judgment in their selection, cost, and care.

Prerequisites: HA 111, A 110. Required in Home Economics; freshman year; second or third term; 4 credits; 2 lectures; 2 three-hour laboratory periods. Fee \$1.50.

HA 113. Clothing and Textiles. Flat pattern designing and pattern modeling; design and construction of simple silk dresses; art blouses; remodeling in wool and silk; emphasis on design, color, and texture; textile study of silk and minor fibers; problems connected with clothing manufacture; hygiene of clothing.

Prerequisites: HA 112, A 120. Required in Home Economics; third term; 4 credits; 2 lectures; 2 three-hour laboratory periods. Fee \$1.50.

HA 118. Dress Design and Construction. (Brief course for young women in School of Commerce and other schools.) Preparation and use of dress form; appropriate designs and principles of construction worked out in planning and making of blouses, skirts, lingerie, and wool or silk dresses.

Elective; freshman year; any term; 3 credits; 1 lecture; 8 hours laboratory work. Fee \$1.00. *Mary Van Kirk*

HA 311. Advanced Clothing and Textiles. This course aims to develop independence, initiative, originality and art in planning and designing garments for different types of figures, and skill and speed in constructing garments. Design and construction of lingerie dresses, different types of blouses, and silk and wool dresses; study of laces, embroideries, tapestries, rugs, furs, and leather.

Prerequisites: HA 113, A 130, HA 331, either prerequisite or parallel. Required in Home Economics; junior year; any term; 5 credits; 2 lectures; 3 three-hour laboratory periods. Fee \$1.00.

Mary Van Kirk, Lula M. Brandt

HA 316. Advanced Textiles. Principles of art, economics, hygiene, and psychology applied to clothing; study of adulterants and substitutes; microscopic and chemical analysis of materials.

Prerequisites: HA 113, A 130, Ch 103. Elective; senior year; any term; 3 credits; 3 lectures. Fee \$1.00. *Helen L. Davis*

MILLINERY

HA 321. Beginning Millinery. Designing and constructing frames; methods of covering; trimming and renovating.

Elective; any term; 3 credits; 3 three-hour laboratory periods. Fee \$1.50. *Helen McFaul*

HA 322. Advanced Millinery. This course continues the work of HA 321 with the purpose of developing speed, originality, and better technique; increased emphasis on millinery as a creative art; good foundation for trade work.

Prerequisite: HA 321. Elective; any term; 2 credits; 1 lecture; 2 two-hour laboratory periods. Fee \$1.50. *Helen McFaul*

HA 328. Millinery. (Brief course for young women in School of Commerce and other schools.) Designing and construction of hats; trimming and renovating.

Elective; any term; 2 credits; 3 two-hour laboratory periods. Fee \$1.50. *Helen McFaul*

APPLIED DESIGN

HA 331. Costume Design. Study of proportions of figure, color, types, and personality; effects of line, proportion, and color in dress; history of costume; problems in designing and modeling based on art principles and historic study.

Prerequisite: A 130. Required in Home Economics; junior year; any term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$1.50. *Lila M. O'Neale*

HA 411. Dress Design. Designing, modeling, and constructing of afternoon and evening dresses; emphasis on line, proportion, color, and texture; development of historical costume and its relation to modern fashions with aim of giving practical help and inspiration to students and teachers of dressmaking and costume design.

Prerequisites: HA 311, 331. Elective; senior year; any term; 4 credits; 1 lecture; 3 three-hour laboratory periods. Fee \$1.00. *Lila M. O'Neale*

HA 412. Trade Course in Dressmaking. (For students who wish to follow dressmaking as a profession, or who wish to enter commercial work.) Broader training in selecting, designing, fitting, and constructing garments for different types of figures; organization of work from trade standpoint; emphasis on speed.

Prerequisites: HA 311, 331; A 311. Elective; 2 to 4 credits; 1 lecture; 4 to 9 hours laboratory work.

HA 416. Tailoring. Development of principles and processes of tailoring; application on silk and cloth suits.

Prerequisites: HA 311, 331. Elective; senior year; first or third term; 3 credits; 3 three-hour laboratory periods. Fee \$1.00.

HA 431. House Decoration. Planning and furnishing of homes, considering art, economy, convenience, and sanitation.

Prerequisite: A 130. Required in Home Economics; senior year; any term; 3 credits; 3 lectures; 1 two-hour laboratory period. Fee \$1.50. *Helen McFaul*

HA 435. Applied Design. Decorative art involving careful consideration of line, form, proportion, and color; original designs executed in various media for clothing and house-furnishing problems; tie-dying, batik, and stencil decoration for textiles, embroidery, weaving, lamp shade making, etc.

Prerequisite: A 130. Elective; senior year; any term; 3 credits; 3 three-hour laboratory periods. Fee \$2.00.

HA 438. Home Planning and Furnishing. (Brief course planned for students registered in the General Curriculum in Home Economics; for those in schools other than Home Economics, as Commerce, Pharmacy, etc.; and for Special students.) Planning and furnishing the home from the standpoint of art, economy, convenience, and sanitation.

Elective; any term; 3 credits; 1 lecture; 2 recitations; 1 two-hour laboratory period; 4 hours preparation. Fee \$1.50.

Margaret Morehouse

Note: Students in Household Art courses who do not wish to make garments or hats for themselves may be furnished material through orders given the department.

HOUSEHOLD SCIENCE

Equipment. The department is located in the Home Economics Building. Two single laboratories accommodating 20 students, and two double laboratories accommodating 40 students each, are well equipped. There is also a family kitchen and dining-room where much meal serving is conducted, and an institutional unit where training in institutional management is given.

COURSES

HS 101. Principles of Foods and Cookery. This course aims to give laboratory technique and a resume of elementary cookery. All work is upon a meal basis.

Required in Home Economics of students who have not had 90 hours in Household Science in high school; required in Institutional Management Curriculum; any term; 4 credits; 2 recitations; 2 three-hour laboratory periods. Fee \$4.00.

Emma Weld, Mrs. Sara W. Prentiss

HS 150. Food Selection and Preparation (for Men). A course for men who are planning and preparing their own meals or who are acting as managers of clubs.

Elective to men; second term; 1 credit; 1 three-hour laboratory period. Fee \$2.50.

Mrs. Sara W. Prentiss

HS 201. Food Selection and Preparation. A unit course for students who desire to learn food selection and preparation by meal service. (Approved uniforms are required for each student.) Sections limited to eight.

Elective in Commerce and other departments; sophomore year; any term; 3 credits; 3 three-hour laboratory periods. Fee \$4.00.

HS 203. Food Selection and Preparation. An introduction to the subject of foods; selection, preparation, and service. Arranged to meet the needs of students taking the General Curriculum in Home Economics. (Two complete approved uniforms are required for each student. Directions for uniforms may be secured from the Dean's office.)

Prerequisite: Nine hours science. Sophomore year; first term; 4 credits; 2 recitations; 2 three-hour laboratory periods. Fee \$4.00.

HS 204. Food Selection and Preparation. Continuation of HS 203. (Two approved uniforms are required for each student. Directions for uniforms may be secured from the Dean's office.)

Prerequisite: HS 203. Sophomore year; second term; 4 credits; 2 recitations; 2 three-hour laboratory periods. Fee \$4.00.

HS 205. Elementary Nutrition. A simplified study of food materials in their relations to the daily dietary of families under various conditions of environment. (Two approved uniforms are required for each student. Directions for uniforms may be secured from the Dean's office.)

Prerequisite: HS 204. Junior year; third term; 4 credits; 2 recitations; 2 three-hour laboratory periods. Fee \$4.00.

HS 211. Food Selection and Preparation. (For students who have had 90 hours or more of cookery in accredited high schools. Students not able to carry this work successfully are required to take HS 101.) Study of foods in their scientific and economic aspects; selection, preparation, and service. (Two approved uniforms are required for each student. Directions for uniforms may be secured from the Dean's office.)

Prerequisite: Ch 103. (Bot 201 and Ch 221 prerequisites or parallel.) Required in Home Economics; first or second term; 4 credits; 2 recitations; 2 three-hour laboratory periods. Fee \$4.00.

HS 212. Food Selection and Preparation. A continuation of HS 211. (Two approved uniforms are required for each student. Directions for uniforms may be secured from the Dean's office.)

Prerequisite: HS 211. (Ch 222 must precede or accompany this course.) Required in Home Economics; sophomore year; second or third term; 4 credits; 2 recitations; 2 three-hour laboratory periods. Fee \$4.00.

HS 213. Food Selection and Preparation. A continuation of HS 212. (Two approved uniforms are required for each student. Directions for uniforms may be secured from the Dean's office.)

Prerequisite: HS 212. Required in Home Economics; sophomore year; any term; 4 credits; 2 recitations; 2 three-hour laboratory periods. Fee \$4.00.

HS 320. Nutrition. Scientific study of food materials in their relation to the daily dietary of families under various conditions of environment; dietary standards of metabolism; comparison of the nutritive values of common foods by computing, preparing, and

serving dietaries of specific costs, furnishing specific nutrients. (Two approved uniforms are required for each student. Directions for uniforms may be secured from the Dean's office.)

Prerequisites: HS 213, ZP 321, Ch 222. Required in Home Economics; junior year; any term; 5 credits; 3 recitations; 3 two-hour laboratory periods. Fee \$4.00. *Myrtle Ferguson, Bernice Wait*

HS 350. **Camp Cookery (for Men).** Preparation of palatable and nutritious products from foods available in camps; outdoor food preparation, involving the use of Dutch ovens, reflectors, and improvised camping utensils.

Elective in Forestry, Agriculture, Engineering, and Commerce; junior or senior year; third term; 1 credit; 1 three-hour laboratory period. Fee \$4.00. *Mrs. Sara W. Prentiss*

HS 420. **Diet in Disease.**

Prerequisite: HS 320. Elective in Home Economics; second or third term; 3 credits; 2 lectures; 1 three-hour laboratory period. Fee \$2.00. *Myrtle Ferguson*

HS 430. **Methods of Demonstration.** Public demonstrations in food selection and preparation; illustrative demonstrations by instructors.

Prerequisites: HS 213, 320. Elective in Home Economics; junior or senior year; second or third term; 1 credit; 1 three-hour laboratory period. Fee \$1.50. *Lillian Taylor*

HS 435. **Experimental Cookery.** Individual problems. Each student selects some piece of work concerned with foods or related subjects. Oregon products often furnish material for these experiments.

Prerequisite: HS 213. Elective in Home Economics; senior year; any term; 2 credits; 2 three-hour laboratory periods. Fee \$2.00. *Bernice Wait*

HS 436. **Advanced Cookery.** This course is intended to acquaint the student with a great variety of food materials, and the more complicated processes of cookery.

Prerequisites: HA 213. Elective; third term; 2 credits; 1 lecture; 1 three-hour laboratory period. Fee \$5.00. *Emma Weld*

HS 450. **Camp Cookery (for Women).** A course designed to give training in application of principles of cookery to conditions found in camp.

Prerequisite: HS 212 or 207. Elective in Home Economics; senior year; third term; 1 credit; 1 three-hour laboratory period. Fee \$4.00.

HS 691, 692, 693. **Research in Foods.** Research problems for which the student is suited by previous training and ability. Assignment of problems by the professor in charge.

Elective; graduate year; three terms; credits and hours to be arranged.

INSTITUTIONAL MANAGEMENT

Equipment. The new dormitory for women, with its modern equipment and conveniences; an attractive tea-room with the latest institutional devices for work; and cafeteria facilities for instruction, permit of offering the highest type of training in institutional management, for which there is an increasingly great demand.

COURSES

IM 310. **Large-Quantity Cookery and Marketing.** Application of the principles of cookery to the preparation of food in large quantities; planning and preparation of meals for dining-hall and cafeteria; calculation of cost and calories in standard servings; the study of the problems involved in the purchase of institutional supplies.

Prerequisite: HS 213 (except for students in one-year curriculum). Elective; any term; 3 credits; 1 lecture; 2 three-hour laboratory periods.
Melissa Hunter

IM 330. **Institutional Management Experience.** Work in office of director of dormitories; studies of business methods employed; study of types of forms in use here and in different institutions for checking of bills, filing of bills and letters, requisitions, etc.; inventories including (1) linen, time studies of making and mending, (2) china and equipment in general, (3) furniture; training in stock taking, stock sheets, permanent records, perpetual inventories, etc.; study of wholesale prices of equipment, furniture, and foods; time studies of all work done in the dormitory and cafeteria with both regular and student help; time studies of different kinds of cleaning equipment.

Elective; any term; 3 credits; 1 lecture; 2 three-hour laboratory periods.
Sibylla Hadwen, Melissa Hunter

IM 430. **Tea-room Management.** Training in various lines of management of tea-rooms, including plans, preparation, and service of luncheons to the public.

Prerequisite: HS 320 (except for students in one-year curriculum). Elective; any term; 5 credits; 1 lecture; 5 four-hour laboratory periods for six weeks.

IM 431. **Advanced Institutional Management.** Organization; standardization; scientific management applied to institutions; service and wages; methods of choosing and training employees; welfare work among employees; duties of a manager; institutional work in other universities and colleges.

Prerequisite: IM 330. Elective; any term; 2 credits; 2 lectures.

Sibylla Hadwen, Melissa Hunter

IM 432. **Advanced Institutional Management Practice.** A continuation of IM 330. Responsibility of management; field work in different types of institutions.

Prerequisite: IM 330. Elective; any term; 3 credits; 3 three-hour laboratory periods.

Sibylla Hadwen

School of Mines

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.
CHARLES EDWARD NEWTON, B.Sc., E.M., Dean of the School of Mines.
MYRTLE BURNAP, B.Sc., Secretary to the Dean.

JAMES HERVEY BATCHELLER, S.B., Associate Professor of Mining.
DOUGLAS CLERMONT LIVINGSTON, B.Sc. (Mining Eng.), Professor of Geology.

*Basic Arts and Sciences**

M. ELLWOOD SMITH, Ph.D., Dean of the School of Basic Arts and Sciences; Director of the Summer Session.
JOHN FULTON, M.S., Professor of Chemistry.
CHARLES LESLIE JOHNSON, B.Sc., Professor of Mathematics.
CHARLES BUREN MITCHELL, A.M., Professor of Public Speaking.
WALTER SCOTT, Ph.D., Associate Professor of Chemistry.
NICHOLAS TARTAR, B.Sc., Assistant Professor of Mathematics.
HARRY LINDEN BEARD, B.Sc., Assistant Professor of Mathematics.
JOHN ALBERT VAN GROOS, M.S., Instructor in Mathematics.
ROBERT UPHOFF, A.B., Instructor in Physics.
JOSEPH PARKE MEHLIG, M.S., Instructor in Quantitative Chemistry.
ABRAHAM SCHWARTZ, B.Sc., Instructor in Chemistry.
GEORGE ALFRED WILLIAMS, A.B., Instructor in Mathematics.
CLARK HARRIS SLOVER, M.A., Instructor in English.
HARRY HOWARD TUCKER, A.B., Instructor in English.

*Other Schools and Departments**

JOHN ANDREW BEXELL, A.M., Dean of the School of Commerce.
GEORGE WILLIAMS MOSES, Colonel, Cavalry, United States Army; Professor of Military Science and Tactics; Commandant of Cadets.
ULYSSES GRANT DUBACH, Ph.D., Professor of Government and Business Law.
SAMUEL HERMAN GRAF, M.S., Professor of Mechanics and Materials.
WALLACE HOPE MARTIN, M.E., Professor of Heat Engineering.
STUART HOBBS SIMS, B.Sc. in C.E., Professor of Civil Engineering.
RICHARD BURR RUTHERFORD, A.B., Professor of Physical Education for Men; Director of Intercollegiate Athletics.

*Here are listed members of other faculties offering courses open to students in Mines.

NEWEL HOWLAND COMISH, M.S., Professor of Economics.
FLOYD ROWLAND, Ph.D., Professor of Chemical Engineering.
FRANK ABBOTT MAGRUDER, Ph.D., Associate Professor of Government and Business Law.
SAMUEL MICHAEL PATRICK DOLAN, C.E., Associate Professor of Civil Engineering.
DEXTER RALPH SMITH, B.Sc., Assistant Professor of Civil Engineering.
RAY BOALS, B.Sc., Assistant Professor of Mechanical Engineering.
IVAN FREDERICK WATERMAN, B.Sc., Instructor in Mechanics and Materials.
BURDETTE GLENN, B.Sc., Instructor in Civil Engineering.
WILLIAM HORNING, Instructor in Industrial Arts.

The curriculum in Mines is designed to give thorough training in the fundamentals of the science of Geology, and the arts of Mining and Metallurgy, and to prepare for positions of responsibility in the industrial life of the country, particularly in the mining field. The curriculum is of such a comprehensive character that a graduate finds it of aid in varied employments. The opportunities which are open to a graduate of the School of Mines include such positions as assayer, chemist, or metallurgist at mines and smelters; member of staffs of the Government and state geological surveys; member of the staff of the Government Coast and Geodetic Survey; land or deputy mineral surveyor; draftsman and designer in engineering establishments; member of the engineering and geological staffs of mining, oil, and exploration companies and of railroads; and worker in the land-classification work of the Government forest service. Graduates may expect that after having reached the necessary maturity they will be competent to fill responsible positions in any branches of geology, mining, and metallurgy.

Curriculum. A four-year curriculum, leading to the degree of Bachelor of Science in Mining Engineering, is offered by the School of Mines. Students showing ability are offered the opportunity and encouraged to take special work in that branch of the profession that most interests them, such as geology, mining, or metallurgy.

The first two years in the School of Mines are the same for all students. The work is intended to give the student a thorough knowledge of those studies basic to all branches of engineering; namely, Mathematics, Physics, Chemistry, Mechanical Drawing, Plane Surveying, Shop Work, and courses having general cultural value.

Two months or more employment in industrial lines closely allied to the student's major work is a prerequisite to graduation.

Admission. Detailed statements of entrance requirements, routine of registration, etc., are given in the special bulletin on "General Information," which is furnished on application. Requirements for admission to the curriculum in the School of Mines are as follows:

Applicants must be at least 16 years of age and must have completed 15 units of work in a secondary school recognized as standard, these units to include (a) at least 3 units of English, 1 unit each of Elementary Algebra and Plane Geometry, and $\frac{1}{2}$ unit of Higher Algebra; together with (b) $5\frac{1}{2}$ additional units to be selected without restriction from among the following subjects: English, Mathematics, Foreign Languages, Laboratory Sciences, and History (including Civics); and (c) 4 units selected from subjects credited toward graduation in standard high schools of Oregon.

Equipment. The School of Mines occupies a commodious, three-story and basement building especially designed for housing the lecture rooms and laboratories devoted to Mining, Metallurgy, Ore Dressing, Geology, and closely allied subjects. The assaying and metallurgical laboratory occupies a room 30 feet by 60 feet on the first floor of the building, extending across the entire east end. It is amply lighted and is completely equipped with the necessary apparatus for conveniently and scientifically carrying on experimental metallurgical operations. A crushing and grinding laboratory and an ore-testing laboratory, completely equipped, occupy two rooms in the basement. On the second floor is located the mining drafting room, equipped for topographical drafting, mining and metallurgical design. The geology laboratories occupy the third floor of the Mines Building, and comprise the Geologic and Mining Museum, the mineralogic laboratory, and the petrologic laboratory. In the Museum are arranged collections of ores, minerals, and rocks from the important mining camps in Oregon. Besides these collections there are many attractive specimens of minerals, rocks, and fossils from numerous American localities. Geologic products are shown, such as samples of different clay wares and cement goods. In addition there is a large-scale relief map of the State. The geologic laboratories contain over 12,000 specimens of ores, rocks, and minerals; rock slides for microscopic work; and geologic and topographic maps.

Miners' Club. The Miners' Club is a society composed of all students and faculty members of the School of Mines. All members of this organization are also members of a junior branch of the American Institute of Mining and Metallurgical Engineers. At the monthly meetings of the Club, addresses are made by prominent mining engineers, and papers descriptive of the summer work of the students are presented by the student members.

DEGREE CURRICULUM IN MINING ENGINEERING

Freshman Year

| | 1st | Term 2d | 3d |
|--|------------------------|------------------------|------------------------|
| General Chemistry (Ch 104, 105, 106), Qualitative Analysis (Ch 231)..... | 5 | 5 | 5 |
| Plane Trigonometry (Mth 111), Elementary Analysis (Mth 131, 132)..... | 4 | 4 | 4 |
| Mechanical Drawing (ME 111, 112)..... | 2 | 2 | --- |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| Drawing and Descriptive Geometry (CE 113)..... | --- | --- | 2 |
| Elements of Geology (G 101)..... | 1 | --- | --- |
| Elements of Mining (MiE 142)..... | --- | 1 | --- |
| Elements of Metallurgy (Met 163)..... | --- | --- | 1 |
| Physical Education (PEm 111, 112, 113)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Sophomore Year

| | | | |
|--|------------------------|------------------------|------------------------|
| Quantitative Analysis (Ch 241, 242)..... | 3 | 3 | --- |
| Chemistry of Fuels (Ch 228)..... | --- | --- | 3 |
| Differential Calculus (Mth 251), Integral Calculus (Mth 252, 253)..... | 4 | 4 | 4 |
| Mining Physics (Ph 221, 222, 223)..... | 3 | 5 | 3 |
| Plane Surveying (CE 121)..... | --- | --- | 5 |
| Crystallography, Blowpipe Analysis, and Determinative Mineralogy (G 211, 212)..... | 5 | 3 | --- |
| Physical Education (PEM 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Junior Year

| | | | |
|--|----------|----------|----------|
| Mechanics (MM 351, 352)..... | 3 | 3 | --- |
| Lithology or Rock Study (G 311)..... | 3 | --- | --- |
| Structural Geology (G 312)..... | --- | 2 | --- |
| General Geology (G 301)..... | 3 | --- | --- |
| Mining Machinery and General Mining (MiE 343)..... | --- | --- | 3 |
| Geologic Surveying and Mapping (G 323)..... | --- | --- | 3 |
| Mine Surveying (MiE 353)..... | --- | --- | 3 |
| Assaying (Met 362)..... | --- | 4 | --- |
| Ore Dressing (Met 381, 382, 383)..... | 3 | 3 | 3 |
| Introduction to Economics (ES 391)..... | 3 | --- | --- |
| National Government (PS 301) or State and Local Government (PS 302)..... | --- | 3 | --- |
| ①Electives | 3 | 3 | 3 |
| | <hr/> 18 | <hr/> 18 | <hr/> 15 |

①Suggested electives; Materials of Engineering (MM 311), Hydraulics (CE 444), Steam Machinery (ME 331).

| Senior Year | Term | | 3d |
|--|------|-----|-----|
| | 1st | 2d | |
| Mining Methods (MiE 441), Mining Engineering (MiE 442), Mine Management (MiE 443)..... | 4 | 4 | 3 |
| Metallurgy of Gold and Silver (Met 462), Metallurgy of Copper, Lead, and Zinc (Met 463)..... | --- | 4 | 4 |
| Business Organization and Management (BA 381) | --- | --- | 3 |
| Metallurgical Laboratory (Met 491, 492) | 3 | 3 | --- |
| Metallurgy of Iron (Met 473)..... | --- | --- | 1 |
| General Metallurgy (Met 461)..... | 4 | --- | --- |
| Economic Geology (G 431, 432, 433)..... | 3 | 3 | 3 |
| ①Electives | 3 | 3 | 3 |
| | 17 | 17 | 17 |

PROPOSED ELECTIVES

Public Speaking.
 Industrial Journalism.
 Money and Banking.
 Modern Languages.
 History.
 Library Practice.
 English.
 Industrial Arts courses (woodwork, machine work, auto mechanics, blacksmithing, plumbing).
 Steam Power Plants.
 Masonry and Foundations.
 Industrial Inorganic Chemistry.
 Industrial Organic Chemistry.
 Electro-Chemical Industries.
 Forest Mapping.
 Contracts and Specifications.
 Engineering Location, Earthworks.
 Machine Design.
 Topographic Surveying.
 Advanced Quantitative Analysis.
 Metallography and Pyrometry.
 Advanced courses offered in the School of Mines.

Courses in degree curricula are designated by numbers of three digits in which the left-hand digit represents usually the year (as first, second, third, etc.) in which the course is normally pursued; the middle digit represents the group of related courses in the department to which the course belongs; and the right-hand digit represents the sequence of courses in cases where courses normally follow each other in succeeding terms.

①Suggested electives: Technical Electricity (EE 251), Assaying (Met 651).

GEOLOGY

The courses in Geology are designed primarily to give the student of Mining Engineering a sound knowledge of the principles of the many branches of the science, and a thorough training in geologic technique having a direct bearing upon the mining profession. Advanced technical courses in Geology are open to qualified students. Several geologic courses are especially designed for students in Agriculture, Civil Engineering, and Forestry.

COURSES

G 101. Elements of Geology. In order to have the simplest conception of the mining profession, one must have an elementary knowledge of Geology. The aim of this course is to give a general outline of the fundamentals of Geology and to show their correct application to mining engineering.

Required in Mines; elective to others; freshman year; first term; 1 credit; 1 lecture. *C. E. Newton*

G 211. Crystallography, Blowpipe Analysis, and Determinative Mineralogy. It is quite essential that the student should have a practical understanding of Crystallography and to that end considerable time is spent upon the determination of natural crystals. Blowpipe analysis is essentially a field method for the chemical determination of minerals. Determinative Mineralogy, as the name indicates, is the utilization of many methods to determine minerals. Emphasis is given to those physical properties which may be used to determine minerals in the field.

Required in Mines; sophomore year; first term; 5 credits; 2 recitations; 4 two-hour laboratory periods. Fee \$4.00. Deposit \$1.50. Text: Moses and Parsons, Mineralogy, Crystallography, and Blowpipe Analysis. *D. C. Livingston*

G 212. Mineralogy. A continuation of G 211, including sight recognition of a large number of important economic and common rock-forming minerals by means of simple physical tests; microscopic mineralogy which involves the recognition of rock-forming minerals by means of their optical characters and includes index of refraction with immersion media. Some time is also spent on the occurrence and origin of minerals.

Prerequisite: G 211. Required in Mines; sophomore year; second term; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$2.00. Deposit \$1.50. Text: Kraus and Hunt, Mineralogy, Crystallography, and Blowpipe Analysis. *D. C. Livingston*

G 214. Crystallography. Briefer course than G 211.

Required in Chemical Engineering; sophomore year; first term; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$2.50. Deposit \$1.50. *J. H. Batcheller*

G 215. Mineralogy. Topics covered in G 212 adapted to needs of Chemical Engineering students.

Required in Chemical Engineering; sophomore year; second term; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$2.00. Deposit \$1.50. *J. H. Batcheller*

G 301. General Geology. Principles of geology, including constitution of the earth, rock-forming minerals; rocks; rock weathering; work of wind, streams, and glaciers; underground water; work of the ocean; lakes; vulcanism and earth movements; brief summary of the historical geology of North America. General Chemistry is recommended as a prerequisite though not required.

Required in Mines; first term; 3 credits; 3 recitations. Text: Pirsson and Schuchert, Textbook of Geology, Part I.

D. C. Livingston

G 301a. General Geology. Similar to G 301. For Civil Engineering students.

Required in Civil Engineering; first term; 3 credits; 3 recitations; 1 two-hour laboratory period. Fee \$1.00. Text: Pirsson and Schuchert, Textbook of Geology, Part I.

D. C. Livingston

G 301b. General Geology. Similar to G 301. Open to all students.

Second term; 3 credits; 3 recitations. Text: Pirsson and Schuchert, Textbook of Geology, Part I.

D. C. Livingston

G 301c. General Geology. Same as G 301, but especially arranged for students in Agriculture, Landscape Gardening, and Forestry.

Second term; 3 credits; 3 recitations; 1 two-hour laboratory period. Fee \$1.00. Text: Pirsson and Schuchert, Textbook of Geology, Part I.

D. C. Livingston

G 302. Historical Geology. Origin and history of the earth and the evolution of plants and animals as disclosed by fossils in the rocks; emphasis upon the growth and development of the North American continent and the sequence of events up to the present time.

Open to all students who have taken G 301, G 301a, G 301b, or G 301c. Third term; 3 credits; 3 lectures. Text: Pirsson and Schuchert, Textbook of Geology, Vol. II.

D. C. Livingston

G311. Lithology or Rock Study. This course is intended to familiarize the student with the characteristics of the commoner rocks so that he may identify them in the field. Microscopic examination of thin sections of rock to bring out the essential features of rocks which a study of hand specimens alone does not effect; origin occurrence, and alteration of rocks studied in considerable detail.

Prerequisites: G 212 and 301. Required in Mines; junior year; first term; 3 credits; 2 lectures; 2 two-hour laboratory periods. Fee \$1.00. Text: Kemp, Handbook of Rocks. *D. C. Livingston*

G 312. Structural Geology. This course is a study of the broader features of the earth's surface and underlying structure of the rocks, including topographic forms, the making of structure sections from surface geology, the influence of folding, the solution of fault problems, and the use of structure contours in the location of coal beds and oil-bearing strata.

Prerequisite: G 311. Required in Mines; junior year; second term; 2 credits; 1 lecture; 2 two-hour laboratory periods. Fee \$1.00.

D. C. Livingston

G 323. Geologic Surveying and Mapping. A study of the principles and methods of geologic surveying and mapping and their application to field work. The student is assigned a small area and is required to make a geologic map and report, based upon the results of his field work. A two-week trip is made to a mining locality showing a variety of geologic features.

Prerequisite: G 312. Required in Mines; junior year; third term; 3 credits; 1 recitation; 6 hours in field and laboratory. Fee \$2.00.

D. C. Livingston, J. H. Batcheller

G 413. Petrography. A more advanced course in Petrology. The optical properties of the rock-forming minerals and the characteristics of the principal rock types are studied with the aid of thin sections and polarizing microscope. Type collections with their corresponding rock sections are available, and the student has the opportunity to supplement field determinations with the exact knowledge gained through the use of the microscope. Not offered in 1922-23.

Prerequisites: G 311 and 312. Elective; third term; 3 credits; 1 recitation; 3 two-hour laboratory periods. Fee \$3.00.

D. C. Livingston

G 422. Interpretation of Geologic and Topographic Maps. study of the representation of geologic and topographic data; interpretation of geologic maps and cross-sections of topographic maps; methods of plotting geologic data on engineering maps; a large number of Government and other geologic and topographic maps covering varied regions of the United States studied in detail. Not offered in 1922-23.

Elective in Mines, Engineering, and Forestry; junior or senior year; second term; 2 credits; 2 laboratory periods. Fee \$1.00.

D. C. Livingston, J. H. Batcheller

G 431. Economic Geology. A study of the many and various factors pertaining to the application of geology to industry. Geologic occurrence of coal, petroleum, gas, clay, building stone, ore deposits, and the like is carefully studied and particular attention is given to those characteristics affecting economic value.

Required in Mines; senior year; first term; 3 credits; 3 recitations. Text: Lindgren, Mineral Deposits. *D. C. Livingston*

G 432. Economic Geology. Continuation of G 431. The principles of ore deposition are taken up in detail.

Prerequisite: G 431. Required in Mines; senior year; second term; 3 credits; 3 recitations. Text: Lindgren, Mineral Deposits.

D. C. Livingston

G 433. Economic Geology. Various types of deposits that occur in important mining camps are discussed, and written abstracts are required from literature bearing on the subject. Considerable importance is attached to the laboratory work, which consists of mineralogic and petrologic study of rocks and ores from type deposits. A certain amount of time is devoted to a discussion of field methods, mine examinations, and reports.

Prerequisite: G 432. Required in Mines; senior year; third term; 3 credits; 2 recitations; 1 three-hour laboratory period. Fee \$1.00.

D. C. Livingston

G 632. Problems in Economic Geology. Problems in mining and field geology are worked out by the student in the laboratory and drafting room. Geologic, topographic, and mine maps are used, and many structural problems are studied, with special regard to their application to the development of mineral deposits.

Prerequisite: G 431. Elective; senior year; second term; 2 credits; 2 laboratory periods. Fee \$1.00.

D. C. Livingston

G 611. Geology of Igneous Rocks. A course dealing with the origin of igneous rock bodies and designed for graduate or advanced students. Such subjects as magmatic differentiation, the mechanism of intrusive and extrusive action, are discussed in detail, and special attention is given to those subjects that have an important technical bearing, such as contact metamorphism, magmatic waters, gaseous emanations, etc. Not offered in 1922-23.

Prerequisite: G 413. Elective; first term; 2 credits; 2 recitations.

D. C. Livingston

G 622. Oil Geology. A course in the geology of petroleum consisting of a study of the origin, geologic occurrence, geologic struc-

ture and distribution of deposits of petroleum and natural gas, with special reference to the oil and gas fields of the United States, Mexico, and South America. Methods of exploring for oil, methods of mapping geologic structure, and methods of recording and filing geologic data bearing upon the geology of oil and gas, are studied. Not offered in 1922-23.

Prerequisite: G 312. Elective; senior year; second term; 2 credits; 2 lectures or recitations; 1 laboratory period.

D. C. Livingston

METALLURGY

The aim of the various courses in Metallurgy is to give the student a broad and general knowledge of the methods of treating ores, metals, and other products of the mineral industry, including the processes of assaying, amalgamation, cyanidation; general milling methods, such as crushing, grinding, and concentration; and the smelting of ores for iron, copper, lead, and zinc, and the minor metals, and their refining.

COURSES

Met 163. **Elements of Metallurgy.** An introductory course in Metallurgy; various phases of the treatment of ores; use of fuels; the production of metals.

Required in Mines; elective to others; freshman year; third term; 1 credit; 1 lecture.

C. E. Newton

Met 362. **Assaying.** The quantitative determination of the constituents of reagents; crushing, sampling and assaying of ores; fluxes, and general metallurgical products.

Required in Mines; junior year; second term; 4 credits; 1 recitation; 3 four-hour laboratory periods. Deposit \$15.00. Text: Fulton, Manual of Fire Assaying.

C. E. Newton

Met 381, 382, 383. **Ore Dressing.** The principles of breaking, grinding, concentrating; general treatment of ores by various processes.

Required in Mines; junior year; three terms; 3 credits each term; 3 recitations. Texts: Richards, Textbook of Ore Dressing. Rickard and Ralston, Flotation.

C. E. Newton

Met 461. **General Metallurgy.** Application of the laws of Chemistry and Physics to metals and alloys; study of fuels, refractory materials, metals and alloys; furnaces and the principles of smelting.

Required in Mines; senior year; first term; 4 credits; 4 recitations. Text: Hofman, General Metallurgy. *C. E. Newton*

Met 462. **Metallurgy of Gold and Silver.** Study of the smelting, amalgamation, cyanidation, and other processes for the production of gold and silver from their ores.

Required in Mines; senior year; second term; 4 credits; 4 recitations. *C. E. Newton*

Met 463. **Metallurgy of Copper, Lead, and Zinc.** Study of the method of producing and refining; the economic conditions affecting the production of common non-ferrous metals.

Required in Mines; senior year; third term; 4 credits; 4 recitations. *C. E. Newton*

Met 473. **Metallurgy of Iron.** Study of the smelting of iron from its ores; the production of cast iron and wrought iron and the general varieties of steel.

Required in Mines; senior year; third term; 1 credit; 1 recitation. Text: Bradley Stoughton, Metallurgy of Iron and Steel.

C. E. Newton

Met 491, 492. **Metallurgical Laboratory.** Laboratory testing in connection with Met 462, Metallurgy of Gold and Silver; Met 463, Metallurgy of Copper, Lead, and Zinc; and Met 481, 482, 483, Ore Dressing.

Required in Mines; senior year; first and second terms; 3 credits each term; 3 three-hour laboratory periods. Fee \$5.00. Deposit \$5.00 each term. *C. E. Newton, J. H. Batcheller*

Met 651. **Assaying.** The quantitative determination of the constituents of ores, metallurgical products, and fuels.

Elective in Mines; senior year; first term; 3 credits; 1 recitation; 2 three-hour laboratory periods. Fee \$5.00. Deposit \$5.00. Text: White, Methods in Metallurgical Analysis. *C. E. Newton*

Met 661. **Metallurgy of the Minor Metals.** The metallurgy of mercury, tin, aluminum, nickel, arsenic, and antimony; study of the methods of production and the uses in the arts.

Elective; senior year; first term; 2 credits; 2 recitations.

C. E. Newton

Met 662. **Metallurgical Design.** Study of plant flow sheets; designing of apparatus for metallurgical operations; working up of flow sheets for milling, smelting, and leaching operations.

Elective; senior year; second term; 2 credits; 2 laboratory periods. Fee \$2.00. *C. E. Newton*

Met 663. **Electrometallurgy.** The principles, processes, and apparatus involved in using electrical energy for the smelting and refining of ores and metals.

Elective; senior year; third term; 2 credits; 2 recitations.

C. E. Newton

MINING ENGINEERING

The courses in Mining Engineering are intended to equip the student with thorough knowledge of the basic principles of the art of mining which are essential in development of mineral properties, design and construction of mine plants, and management of mines.

COURSES

MiE 142. **Elements of Mining.** An introductory course designed to give the main features of mining, the aim being to summarize the phases that the student takes up in detail later in his work, to acquaint him early in his course with the life, the work, and the field of the profession.

Required in Mines; elective to others; freshman year; second term; 1 credit; 1 lecture.

C. E. Newton

MiE 143. **Explosives: Their Properties and Use.** This course offers an opportunity to students in Agriculture, Forestry, Civil Engineering, or others, to learn the principles of explosive action and to study the properties of explosives. Proper use of common high explosives; waste and danger of improper use; emphasis upon the various methods of using explosives as applied to farming, road building, etc.; actual field practice in loading and firing; blasting with the aid of electricity.

Prerequisite: General Chemistry. Elective; third term; 2 credits; 1 lecture each week; 4 three-hour laboratory periods during the term. Fee \$1.00.

J. H. Batcheller

MiE 243. **Excavation, Explosives, and Blasting.** Methods and cost of earth and rock excavation, tunneling, and shaft sinking; study of explosives used in mining and excavation work; methods of handling and storing explosives; methods of blasting.

Elective; sophomore year; third term; 3 credits; 3 lectures.

J. H. Batcheller

MiE 343. **Mining Machinery and General Mining.** A study of mining machinery and equipment used in general mining and prospecting work; brief discussions and illustrations of general mining operations, including metal, coal, and oil.

Required in Mines; junior year; third term; 3 credits; 3 recitations. Text: Young, Elements of Mining. *J. H. Batcheller*

MiE 353. Mine Surveying. Study of the methods of surveying as used on surface and underground in connection with mining operations; United States land subdivision and mining laws; claim surveys and locations; patent work; topographic surveys and maps; underground methods of traversing; stope measurement; connections; a field trip during the last two weeks of the term to some mine in the vicinity of the College.

Required in Mines; junior year; third term; 3 credits; 2 recitations; 1 laboratory period. Fee \$2.00. Text: Peele, Mining Engineers Hand Book. *J. H. Batcheller*

MiE 441. Mining Methods. A comprehensive study and comparison of all systems of mining; a detailed study of the advantages and disadvantages of various stoping methods, methods of development, and of carrying on simultaneously developing and producing.

Required in Mines; senior year; first term; 4 credits; 4 recitations. Texts: Young, Elements of Mining. Peele, Mining Engineers Hand Book. *J. H. Batcheller*

MiE 442. Mining Engineering. A study of the control and coordination of all the major activities of mine operations (developing, mining, transportation of ore, milling, production of power, and marketing of products), by cost accounting and technical records, supplemented by design of general plant mine layout and special features.

Prerequisite: MiE 441. Required in Mines; senior year; second term; 4 credits; 2 recitations; 2 three-hour laboratory periods. Fee \$2.00. Text: Hoover, Principles of Mining. *J. H. Batcheller*

MiE 443. Mine Management. A study of the economic factors affecting mining enterprises, the restrictions imposed by the mining laws of the United States, Canada, and Mexico, the methods of handling employees, the examination and appraisal of prospects and mines, methods of keeping abreast of progress in the profession through abstracts of current technical journals and mining institute publications.

Required in Mines; senior year; third term; 3 credits; 3 recitations. *J. H. Batcheller*

MiE 641. Mine Economics and Mining Law. Study of the costs of mining; methods of mine accounting and cost keeping; mining laws of the United States, Canada, and Mexico.

Elective; senior year; first term; 3 credits; 3 recitations. *J. H. Batcheller*

MiE 642. Mine and Power Equipment. Study of surface and underground equipment for mines, including haulage systems, hoists, compressors, drills, pumps, etc.; discussion of the sources of power, water, hydroelectric, steam, gas, and compressed air; problems illustrating their application to mining methods.

Elective; senior year; second term; 3 credits; 3 recitations.

J. H. Batcheller

MiE 643. Mine Plant Design. The student designs and details plans and specifications for mine equipment to meet the requirements of a hypothetical mine.

Elective; senior year; third term; 2 credits; 2 three-hour laboratory periods. Fee \$2.00.

J. H. Batcheller

School of Pharmacy

- WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.
ADOLPH ZIEFLE, Ph.C., M.S., Dean of the School of Pharmacy; Professor of Pharmacy.
HERSCHEL BRIAN MCWILLIAMS, Ph.C., B.Sc., Assistant Professor of Pharmacy.
MERRILL OLIVER RAWSON, Ph.G., B.Sc., Assistant Professor of Pharmacy.
LORETTA CLARE BECKER, Ph.G., B.Sc., Assistant in Pharmacy.

*Basic Arts and Sciences**

- M. ELLWOOD SMITH, Ph.D., Dean of the School of Basic Arts and Sciences; Director of Summer Session.
LOUIS BACH, M.A., Professor of Modern Languages.
GODFREY VERNON COPSON, M.S., Professor of Bacteriology.
NATHAN FASTEN, Ph.D., Professor of Zoology and Physiology.
WALTER SCOTT, Ph.D., Associate Professor of Chemistry.
HELEN MARGARET GILKEY, Ph.D., Assistant Professor of Botany.
JOSEPH ELLSWORTH SIMMONS, M.S., Assistant Professor of Bacteriology.
FRANCIS HENRY THURBER, M.A., Assistant Professor of Chemistry.
THOMAS WATSON, M.A., Assistant Professor of Chemistry.
MELISSA MARGARET MARTIN, A.B., B.Sc., Instructor in Modern Languages.
ETHEL TAYLOR, A.B., Instructor in Modern Languages.
ALBERT WASHINGTON MARKER, A.M., Instructor in Physics.
JOSEPH PARKE MEHLIG, M. S., Instructor in Chemistry.
HORACE WILLISTON, A.B., Instructor in English.
ABRAHAM SCHWARTZ, B.Sc., Instructor in Chemistry.
CLARK HARRIS SLOVER, A.M., Instructor in English.
CYRIL EVAN FARRAND, B.Sc., Instructor in Chemistry.
FLORENCE HAGUE, Ph.D., Instructor in Zoology and Physiology.
JAMES ALEXANDER BERRY, M.S., Instructor in Bacteriology.

*Other Schools and Departments**

- JOHN ANDREW BEXELL, A.M., Dean of the School of Commerce.
MARY ANNETTE ROLFE, M.A., Dean of Women.
GEORGE WILLIAMS MOSES, Colonel, Cavalry, United States Army; Professor of Military Science and Tactics; Commandant of Cadets.
JESSE FRANKLIN BRUMBAUGH, LL.B., A.M., Professor of Psychology.

*Here are listed members of other faculties giving instruction open to students in Pharmacy.

CLAUDE MATTHIS, M.D., Medical Adviser.

HECTOR MACPHERSON, Ph.D., Professor of Economics and Sociology.

ULYSSES GRANT DUBACH, Ph.D., Professor of Government and Business Law.

EDNA AGNES COCKS, M.A., Professor of Physical Education for Women.

RICHARD BURR RUTHERFORD, A.B., Professor of Physical Education for Men.

NEWEL HOWLAND COMISH, M.S., Professor of Economics.

ROY RENO HEWITT, Ph.B., LL.B., M.A., Assistant Professor of Government and Business Law.

The School of Pharmacy was established in 1898 by the Board of Regents of the College upon petition of the druggists of the State, to meet the growing demand for thorough practical and theoretical training in Pharmacy and related branches. From its inception it has grown steadily and has always had a place in the front rank of the profession.

As it is the aim of the School to prepare students for the intelligent practice of all branches of pharmacy, its equipment, methods of instruction, courses, and other resources, are arranged to meet the demands of the present day. The requirements of the Oregon Pharmacy Law are more than satisfied by the training furnished.

The entrance requirements, class instruction, and scientific standards are on the same basis as in the other schools of the College, as well as in all Class A schools of pharmacy. Students share all of the advantages and enjoy the spirit of a great educational establishment.

Curricula. Three degree curricula are offered: a four-year curriculum leading to the degree of Bachelor of Science in Pharmacy; a three-year curriculum leading to the degree of Pharmaceutical Chemist; a two-year curriculum leading to the degree of Graduate in Pharmacy. Since the three- and four-year Pharmacy curricula contain all subjects required by medical schools for entrance, students can register in either of these curricula and complete their pre-medical work in two years. This same advantage is afforded students who contemplate entering the profession of dentistry. In addition to the above, students who have not completed a full four-year high school course may register in the School as special students, not candidates for a degree. These students have the same privileges in the election of courses as do the degree students, but more especially in preparation for State pharmacy examinations. All special students should confer with the Dean regarding their credentials before registering.

Purpose of Training. Consistent endeavor is made to provide well-balanced courses that will fit students not only for practical drug-store work, but for a variety of positions in pharmaceutical, analytical, and medical chemistry. Students are trained not only in technique, power of observation, and the principles of Pharmacy, but also in resourcefulness, initiative, and individual responsibility.

Standard of Work. All work offered in the School meets the highest requirements of pharmaceutical instruction in this country. The School is a member of the American Conference of Pharmaceutical Faculties, and its curricula are registered by the New York Board of Higher Education. The facilities for instructional work are good, and because of the broad training that students derive from laboratory work, this is made a special feature of the School. Diplomas as well as all work of students in this School will be recognized by all state boards of pharmacy which require attendance in a school of pharmacy as a prerequisite for registration.

American Conference of Pharmaceutical Faculties. The School holds membership in the American Conference of Pharmaceutical Faculties. The object of the Conference is to promote pharmaceutical instruction. All institutions holding membership must maintain certain minimum requirements for entrance and graduation. The influence of the Conference has been so great that several states, either by law or by ruling of a state board of pharmacy, have recognized its standards.

Methods of Instruction. Lecture periods are fifty minutes each, laboratory periods two or three hours, depending upon the character of the work. Courses continue through the regular college year of nine months. As the schedule of study is prepared at the beginning of each term of twelve weeks, it is impossible until that time to state the exact hour when certain courses will be given. As a general rule, students spend approximately three-fourths of their time in lecture and laboratory work.

Requirements of the Pharmaceutical Profession. For practice of pharmacy today high requirements must be met. Public sentiment has demanded enactment of stringent laws. It is now a necessity that a pharmacist have scientific training such as cannot be obtained by merely working in a drug store. College training is necessary. State boards of pharmacy, recognizing the importance of theoretical instruction as a means of insuring accurate preparation and dispensing of medicines, are requiring college training before the student is eligible to take the state examination.

Oregon Law Relating to the Practice of Pharmacy. The Oregon Pharmacy Law is enforced by the Oregon State Board of Pharmacy. This Board recognizes two classes of pharmacists; namely,

registered pharmacists and assistant registered pharmacists. The Board outlines the scope and duties of each as regards the dispensing of prescriptions, sale of poisons, and the manufacture of medicines. A registered pharmacist is one who has met all of the requirements of the Board of Pharmacy including the passing of an examination. He can operate a drug store, compound medicinal preparations, dispense prescriptions, sell poisons, as well as train assistant pharmacists. An assistant registered pharmacist has met certain requirements of the Board including the passing of an examination. His duties are to assist the registered pharmacist, but he is not eligible to compound medicines, operate a drug store, sell poisons, dispense prescriptions, etc.

Before any candidate is eligible to take the State pharmacy examination, either for registered pharmacist or assistant registered pharmacist, he must be over 18 years of age and must have had a definite amount of practical drug-store experience under the supervision of a registered pharmacist in a store where drugs are compounded and dispensed. A resume of the new Oregon Pharmacy Law as passed by the 1921 session of the State Legislature is as follows:

Registered Pharmacist. Beginning July 1, 1921, all candidates for examination as registered pharmacists must be over 18 years old and must have completed one year's work of a degree course in Pharmacy in a school or college of pharmacy which is a member of the American Conference of Pharmaceutical Faculties. In addition to this, the applicant must have had an amount of practical drug-store experience under the direct supervision of a registered pharmacist, in order that the total of school experience and practical drug-store experience will amount to four years, or forty-eight months. The Oregon Law further provides that not more than twenty-four months of actual school experience may be substituted for the required practical experience.

Beginning January 1, 1922, all candidates for examination as registered pharmacists must have attended at least two years at a school or college of pharmacy recognized by the American Conference of Pharmaceutical Faculties during which time they must be registered in a degree course in Pharmacy. In addition, the applicant must present evidence of having had at least thirty months practical drug-store experience under the supervision of a registered pharmacist. Provided, however, that twenty-four months of school experience may be used as practical experience.

Assistant Registered Pharmacist. Candidate must be over eighteen years of age, and he must show evidence of having had three years' practical drug-store experience. Two years of practical experience may have been spent in a recognized school or college of pharmacy. An assistant registered pharmacist is eligible to take the state pharmacy examination for full registration as soon as he can meet the requirements of the Pharmacy Board as regards educational training and practical drug store experience.

With the exception of two states, every state board of pharmacy in the United States is a member of the National Association of Boards of Pharmacy. The aim of this Association is to raise the

standards of pharmacy examinations in order that none but qualified pharmacists may dispense physicians' prescriptions. The standards for state examinations are now so high that applicants without college training have difficulty in making the necessary grades. All graduates of this School of Pharmacy have been successful in passing the State pharmacy examinations and all have made creditable averages. Through a reciprocity agreement all registered pharmacists are eligible to practice pharmacy in forty-three other states without further examination.

State Pharmacy Examinations. Since all students in pharmacy are required to pass the State pharmacy examinations in order to become registered pharmacists, preparation for these examinations is a special feature of the work of the School. Aside from enabling the student to become a registered pharmacist, however, the aim of the School is to afford him an opportunity to obtain a thorough foundation in the principles of pharmacy and chemistry in order that he may successfully continue his studies after leaving College.

Demand for Graduates. The demand for educated pharmacists was never so great as it is today. The demand is for those having business capacity, industry, integrity, and a good pharmaceutical education. Because of the responsibility of the profession, in no line of work is expert knowledge more necessary than in pharmacy. State and Federal pure food and drug laws make it now a necessity that a pharmacist be thoroughly familiar with all drugs and their preparation.

Opportunity for Graduates. Graduates in pharmacy are capable of occupying a number of different kinds of positions because of the broad training they receive. In the degree curricula students receive intensive and varied training which fits them to be analytical chemists, prescription dispensers, manufacturing pharmacists and chemists, food and drug inspectors, traveling salesmen, bacteriologists, physicians' assistants, and experts in other positions requiring a knowledge of pharmacy, chemistry, and medicine.

Pharmacy as a Profession for Women. Reports from all schools of Pharmacy in the United States show that the number of women studying pharmacy is increasing annually. There is no field that offers greater opportunities for women. Women are especially well adapted for success in pharmacy. The work is clean and agreeable. Preparing and dispensing drugs involves the traits of neatness and accuracy that, generally speaking, are more predominant in women than in men. In store arrangement, window trimming, and other work requiring some knowledge of color harmony and display, a woman is naturally more adept than a man. As over seventy-five

percent of all drugs and druggists' sundries are purchased by women, it follows that these patrons would prefer to deal with women.

The School of Pharmacy graduates one or more women each year and all are successful in their present positions. The College has an enrollment of over a thousand women, and takes special pride in providing all conveniences for them such as gymnasium, dormitories, women's associations, etc.

Pre-medical Course. Students desiring to prepare for entrance into medical or dental schools will find that the fundamental courses required are given to advantage in the School of Pharmacy. In order to be eligible to clear entrance into any Class A medical school, students must present evidence of graduation from an accredited four-year high school, or the equivalent of fifteen high school units, as well as the completion of two or three years of college work made up of courses in Chemistry, Zoology, Physiology, Physics, Modern Languages, Economics, Political Science, English, and other cultural subjects. The length of the course is regulated by each medical school. Many schools of medicine are requiring three years of pre-medical training; therefore, any student beginning his pre-medical course in the college year 1922-23 should plan on a three-year course.

It is not necessary that a student graduate from a degree course to be eligible to enter a medical school. All that is required is a transcript showing the completion of certain courses which are outlined by the Council on Medical Education and published annually in the August number of the Journal of the American Medical Association.

The following is a list of the subjects required for students desiring to enter a medical school beginning with the fall of 1921-22. Students may learn of the specific requirements of any medical school through the Dean of the School of Pharmacy.

PRE-MEDICAL SUBJECTS. SIXTY SEMESTER HOURS REQUIRED.

| <i>Required subjects:</i> | <i>Semester hours</i> |
|--|---------------------------|
| Chemistry (a) | 12 |
| Physics (b) | 8 |
| Biology (c) | 8 |
| English Composition and Literature (d) | 6 |
| Other non-science subjects (e) | 12 |
| <i>Subjects strongly urged:</i> | |
| French or German (f) | 6-12 |
| Advanced Botany or Advanced Zoology | 3- 6 |
| Psychology | 3- 6 |
| Advanced Mathematics, including Algebra and Trigonometry | 3- 6 |
| Additional courses in Chemistry | 3- 6 |

Other suggested electives:

English (additional), Economics, History, Sociology, Political Science, Logic, Mathematics, Latin, Greek, Drawing.

A semester hour is the credit value of sixteen weeks of work consisting of one lecture or recitation period a week, each period to be not less than fifty minutes net, at least two hours of laboratory work to be considered as the equivalent of one lecture or recitation period.

The Oregon State Agricultural College offers many courses in scientific and cultural subjects and for this reason it maintains the largest scientific laboratories in the State. These laboratories, together with the adequate facilities for thorough instruction, make the institution an ideal place for pre-medical training.

In addition to the regular instruction in pre-medical subjects, the School of Pharmacy offers to pre-medical students training in the compounding and dispensing of drugs. This is an advantage to students in medicine, as they become more or less familiar with remedies before they take up their medical courses.

All courses in Pharmacy may be counted toward graduation. If a student completes the four-year curriculum, he has clear entrance into any Class A medical school; he is also eligible to take the examinations of any state board of pharmacy. A special advantage to medical students in being registered pharmacists is the fact that they can then earn a part of their way through school by working in a drug store, acquiring valuable experience through contacts with the prescriptions and remedies used to alleviate disease.

The following is recommended as an ideal high school course as preparation for pre-medical work:

| | <i>Units</i> |
|------------------------|--------------|
| English | 4 |
| Algebra | 1½ |
| Geometry | 1 |
| Physics | 1 |
| Chemistry | 1 |
| History | 1 |
| Latin | 2 |
| Foreign Language | 2 |
| Electives | 1½ |
| Total | 15 |

Correspondence. Inquiries regarding the School of Pharmacy may be addressed to the Dean or to the Registrar of the College. Students desiring to enter will be provided with proper blanks for filing credentials. These may be obtained from the Registrar's office.

Equipment. The School of Pharmacy has its lecture rooms and laboratories in Science Hall, a building which conveniently meets the need for space, light, and ventilation.

All laboratories and lecture rooms are excellently equipped with all apparatus necessary for practical pharmaceutical instruction. Students have individual desks which are supplied with the apparatus necessary for the specific course. Students can borrow as much additional apparatus as they may need from the pharmacy stock-room. In order to save as much of the students' time as possible and make possible higher efficiency in laboratory courses, all stock is placed on side shelves. By this means students can repeat an experiment as many times as are necessary to get accurate results.

In addition to the usual permanent fixtures and apparatus for individual students, the School is supplied with a number of pieces of special apparatus such as pharmaceutical stills, tablet and pill machines, filter presses, hand and power drug mills, special percolators, gas and electric drying ovens, and such other apparatus as is necessary for modern pharmaceutical instruction. The pharmacognosy room contains several hundred samples of crude drugs, official and unofficial preparations, and active principles of drugs used for study and identification purposes. There is also a collection of authentic crude drugs and their preparation donated by Eli Lilly Company. This collection is used as a standard for all new supplies of drugs received. The special laboratory for Commercial Pharmacy is very well equipped for sign-card painting and display material. In addition to brushes, pens, paints, and other apparatus used in show-card work, each desk is provided with an air-brush outfit useful in shading of letters and drawings.

Four-year Curriculum. This curriculum is academic and professional in nature and is therefore the most satisfactory one to elect. Upon completion of the required subjects, students are granted the degree of Bachelor of Science in Pharmacy (B.Sc.). This curriculum includes all professional work of the two-year and three-year curricula as well as all pre-medical subjects. Graduates of this curriculum are prepared for any position requiring a knowledge of drugs and chemicals. Aside from a thorough training in Pharmacy and Chemistry, students in this curriculum are also instructed in Bacteriology, Physiology and Zoology, Physics, English, Modern Languages, Pharmaceutical Botany, Business Law, and Military Science and Tactics.

Three-year Curriculum. This curriculum leads to the degree of Pharmaceutical Chemist (Ph.C.) and is offered to meet the demand of many students desiring to prepare for special lines of work, such as commercial chemists, food and drug inspectors and analysts, clinical chemists for physicians. Pre-medical students find this curriculum the most satisfactory to elect, as they can complete pre-medical subjects as well as all professional Pharmacy subjects in three years.

They are then eligible to take the examinations of the Oregon State Board of Pharmacy, and if successful, they can practice pharmacy in any of forty-three states without further examination.

All work of the two-year curriculum is required in the three-year curriculum unless other arrangements are made. The courses of the third year are elective and are designed to qualify students for special lines of work. Any selection of courses, however, can only be made after consultation with the Dean.

Two-year Curriculum. This curriculum leads to the degree of Graduate in Pharmacy (Ph.G.), and comprises the more practical courses in Pharmacy. It prepares directly for drug-store and dispensing practice and provides a groundwork in analytical chemistry necessary for the practice of pharmacy. The plan of study appeals especially to young men and women who desire to prepare for state pharmacy examinations. The curriculum meets all of the requirements of the Oregon State Pharmacy Law as well as those of other states requiring attendance in a school of pharmacy before a student can take the state examinations. If they so desire, students completing this curriculum may continue with the work of either the three-year or the four-year curriculum.

Admission. Detailed statements of entrance requirements, routine of registration, etc., are given in the special bulletin on "General Information," which is furnished on application. Requirements for admission to the School of Pharmacy are as follows:

Degree Curricula: Applicants must be at least 16 years of age and must have completed 15 units of work in a secondary school recognized as standard, these units to include (a) at least 3 units of English, and 1 unit each of Elementary Algebra and Plane Geometry; (b) 6 additional units to be selected without restriction from among the following subjects: English, Mathematics, Foreign Languages, Laboratory Sciences, and History (including Civics); and (c) 4 units in subjects credited towards graduation by standard high schools of Oregon.

Special Students: The facilities of the School of Pharmacy are open to students who cannot meet the entrance requirements of the curricula leading to degrees. Such special students have the same privileges as students in degree curricula, and are subject to the same college regulations as other undergraduate students. Special students may not be candidates for a degree until they have fulfilled all college requirements, including those for admission to freshman standing.

Entrance Without Drug-store Experience: Students are not required to have had drug-store experience upon entering the College. Such experience is very desirable, however, and students are advised to acquire one or preferably two years before taking up the courses in Pharmacy. No secondary or advanced credits are allowed for drug-store experience, but the State Board of Pharmacy requires a definite amount of practical experience before registration can be granted.

FOUR-YEAR CURRICULUM IN PHARMACY

B.Sc. Degree

Freshman Year*

| | Term | | |
|--|------------------------------------|------------------------------------|------------------------------------|
| | 1st | 2d | 3d |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| General Chemistry (Ch 104, 105, 106)..... | 5 | 5 | 2 |
| Qualitative Analysis (Ch 131)..... | --- | --- | 3 |
| General Zoology (ZP 101, 102, 103)..... | 3 | 3 | 3 |
| Pharmaceutic Botany (Bot 107, 108, 109)..... | 3 | 3 | 3 |
| Elementary Pharmacy (Phr 111, 112, 113)..... | 1 | 1 | 1 |
| Gymnasium for Men (PEm 111, 112, 113)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Gymnasium for Women (PEw 111, 112, 113)..... | (1) | (1) | (1) |
| Social Ethics (PEw 121), Hygiene for Women (PEw 122) | (1) | (1) | --- |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | <u>17 $\frac{1}{2}$</u> | <u>17 $\frac{1}{2}$</u> | <u>17 $\frac{1}{2}$</u> |

Sophomore Year

| | | | |
|--|------------------------------------|------------------------------------|------------------------------------|
| Organic Chemistry (Ch 226, 227)..... | 5 | 5 | --- |
| Quantitative Analysis (Ch 244)..... | --- | --- | 5 |
| Mammalian Anatomy (ZP 211, 212, 213)..... | 3 | 3 | 3 |
| Modern Language | 3 | 3 | 3 |
| Introduction to Economics (ES 391)..... | --- | 3 | --- |
| Business and Rural Law (PS 163)..... | --- | --- | 3 |
| Gymnasium for Men (PEm 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Gymnasium for Women (PEw 211, 212, 213)..... | (1) | (1) | (1) |
| Military Science and Tactics | 2 | 2 | 2 |
| Elective | 3 | --- | --- |
| | <u>16 $\frac{1}{2}$</u> | <u>16 $\frac{1}{2}$</u> | <u>16 $\frac{1}{2}$</u> |

* As one year of college Physics is required by all medical schools for entrance, it is suggested that all students pursuing this curriculum arrange to elect Physics during their freshman year.

Junior Year

| | Term | | |
|---|------|-----|-----|
| | 1st | 2d | 3d |
| Theoretical Pharmacy (Phr 311)..... | 4 | --- | --- |
| General Bacteriology (Bac 204), Pharmacy Bacteriology (Bac 332), Immunity and Serum Therapy (Bac 333) | 3 | 3 | 3 |
| Modern Language | 3 | 3 | 3 |
| Practical Pharmacy (Phr 333) | --- | 3 | --- |
| Pharmaceutical Preparations (Phr 343)..... | --- | --- | 3 |
| Pharmacognosy (Phr 351, 352)..... | 2 | 4 | --- |
| Inorganic Pharmacy (Phr 353)..... | --- | --- | 3 |
| Alkaloidal Testing (Ch 371)..... | 3 | --- | --- |
| Drug Assaying (Ch 374)..... | --- | 3 | --- |
| Pharmaceutical Calculations (Phr 321) | --- | --- | 2 |
| Electives | 3 | 2 | 3 |
| | 18 | 18 | 17 |

Senior Year

| | | | |
|---|-----|-----|-----|
| Materia Medica (Phr 451, 452, 453)..... | 3 | 3 | 3 |
| U. S. Pharmacopoeia and National Formulary (Phr 431, 432, 433)..... | 3 | 3 | 3 |
| Food and Drug Analysis (Ch 377)..... | --- | 3 | --- |
| Prescription Lectures (Phr 461)..... | 4 | --- | --- |
| Prescription Incompatibilities (Phr 462)..... | --- | 4 | --- |
| Prescription Compounding (Phr 463)..... | --- | --- | 3 |
| Manufacturing Pharmacy (Phr 441)..... | 3 | --- | --- |
| Physiological Chemistry (Ch 461)..... | --- | --- | 5 |
| Business Organization (BA 331) | 3 | --- | --- |
| Electives | 2 | 4 | 3 |
| | 18 | 17 | 17 |

THREE-YEAR CURRICULUM IN PHARMACY

Ph.C. Degree

First Year

| | | | |
|--|-----|-----|-----|
| General Chemistry (Ch 104, 105, 106)..... | 5 | 5 | 2 |
| Qualitative Analysis (Ch 131)..... | --- | --- | 3 |
| General Zoology (ZP 101, 102, 103)..... | 3 | 3 | 3 |
| General Physics (Ph 121, 122, 123)..... | 4 | 4 | 4 |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| Elementary Pharmacy (Phr 111, 112, 113)..... | 1 | 1 | 1 |
| Gymnasium (PEm 111, 112, 113)..... | ½ | ½ | ½ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | 18½ | 18½ | 18½ |

Second Year

| | 1st | Term 2d | 3d |
|---|------|------------|------|
| Organic Chemistry (Ch 226, 227)..... | 5 | 5 | .... |
| Mammalian Anatomy (ZP 211, 212, 213) | 3 | 3 | 3 |
| Theoretical Pharmacy (Phr 311)..... | 4 | .... | .... |
| Pharmacognosy (Phr 351, 352)..... | 2 | 4 | .... |
| French or German..... | 3 | 3 | 3 |
| Pharmaceutical Preparations (Phr 343)..... | .... | .... | 3 |
| Pharmaceutical Calculations (Phr 321)..... | .... | .... | 2 |
| Economics, Sociology, Psychology or Political Science ..... | .... | .... | 3 |
| Gymnasium (PEm 211, 212, 213)..... | 1½ | 1½ | 1½ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | 19 ½ | 17 ½ | 16 ½ |

Third Year

| | | | |
|--|------|------|------|
| General Bacteriology (Bac 204), Pharmacy Bacteriology (Bac 332), Immunity and Serum Therapy (Bac 333) | 3 | 3 | 3 |
| Materia Medica (Phr 451, 452, 453)..... | 3 | 3 | 3 |
| U. S. Pharmacopoeia and National Formulary (Phr 431, 432, 433)..... | 3 | 3 | 3 |
| Prescription Lectures (Phr 461) | 4 | .... | .... |
| Prescription Incompatibilities (Phr 462) ..... | .... | 4 | .... |
| Prescription Compounding (Phr 463)..... | .... | .... | 3 |
| Manufacturing Pharmacy (Phr 441)..... | 3 | .... | .... |
| Alkaloidal Testing (Ch 371)..... | .... | 3 | .... |
| Drug Assaying (Ch 374)..... | .... | .... | 3 |
| Electives | 2 | 3 | 2 |
| | 18 | 19 | 17 |

The foregoing outline provides for a thorough course in Pharmacy and includes all pre-medical subjects required by medical schools for entrance. Upon completion of the work of this curriculum students are granted the degree of Ph.C., and after completing their medical course they will be recommended for the degree of Bachelor of Science in Pharmacy (B.Sc.). Students not contemplating a medical course may elect in place of the strictly pre-medical subjects such courses as: Botany, Quantitative Analysis, Food and Drug Analysis, Advanced Organic Chemistry, business courses, etc. All elections, however, must be approved by the Dean.

TWO-YEAR CURRICULUM IN PHARMACY

Ph.G. Degree

First Year

| | Term | | |
|--|---------------|---------------|---------------|
| | 1st | 2d | 3d |
| General Chemistry (Ch 104, 105, 106)..... | 5 | 5 | 2 |
| Qualitative Analysis (Ch 131)..... | ..... | ..... | 3 |
| Sign-card Painting (Phr 221)..... | 2 | ..... | ..... |
| Inorganic Pharmacy (Phr 353)..... | ..... | ..... | 3 |
| Pharmacognosy (Phr 351, 352)..... | 2 | 4 | ..... |
| Theoretical Pharmacy (Phr 311)..... | 4 | ..... | ..... |
| Practical Pharmacy (Phr 333)..... | ..... | 3 | ..... |
| Pharmaceutical Preparations (Phr 343)..... | ..... | ..... | 3 |
| Pharmaceutical Calculations (Phr 321)..... | ..... | ..... | 2 |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| Gymnasium (PEM 111, 112, 113)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| | <hr/> 18½ | <hr/> 17½ | <hr/> 18½ |

• Second Year

| | | | |
|--|---------------|---------------|---------------|
| Organic Chemistry (Ch 226, 227)..... | 5 | 5 | ..... |
| Materia Medica (Phr 451, 452, 453)..... | 3 | 3 | 3 |
| U. S. Pharmacopoeia and National Formulary (Phr 431, 432, 433)..... | 3 | 3 | 3 |
| Prescription Lectures (Phr 461)..... | 4 | ..... | ..... |
| Prescription Incompatibilities (Phr 462)..... | ..... | 4 | ..... |
| Prescription Compounding (Phr 463)..... | ..... | ..... | 3 |
| Manufacturing Pharmacy (Phr 441)..... | 3 | ..... | ..... |
| Alkaloidal Testing (Ch 371)..... | ..... | 3 | ..... |
| Drug Assaying (Ch 374)..... | ..... | ..... | 3 |
| Gymnasium (PEM 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics..... | 2 | 2 | 2 |
| Elective..... | ..... | ..... | 2 |
| | <hr/> 20½ | <hr/> 20½ | <hr/> 16½ |

Courses in degree curricula are designated by numbers of three digits in which the left-hand digit represents usually the year (as first, second, third, etc.) in which the course is normally pursued; the middle digit represents the group of related courses in the department to which the course belongs; and the right-hand digit represents the sequence of courses in cases where courses normally follow each other in succeeding terms.

COURSES IN PHARMACY

Phr 111. Elementary Pharmacy. The purpose of this course is to acquaint entering students of the four-year curriculum with the general scope and purpose of the work they have chosen as a profession. The course deals with the history of Pharmacy and its development, standard pharmaceutical literature, and other elementary phases of Pharmacy.

Required in Pharmacy; sophomore year; first term; 3 credits; 3 recitations. Text: Muldoon, Pharmaceutical Latin.

H. B. McWilliams

Phr 112. Elementary Pharmacy. Continuation of Phr 111. Nomenclature of the U. S. Pharmacopoeia; drugs, weights, and measures; elementary pharmaceutical operations.

Required in four-year curriculum in Pharmacy; freshman year; second term; 1 credit; 1 lecture; 1 recitation.

A. Ziefle

Phr 113. Elementary Pharmacy. The general processes of drug manufacture considered with the view of familiarizing the student with all pharmaceutical apparatus and methods.

Required in four-year curriculum in Pharmacy; freshman year; third term; 1 credit; 1 lecture; 1 recitation. Text: Army, Principles of Pharmacy.

A. Ziefle

Phr 221. Sign-card Painting. Simple lettering is the basis of the work for the first part of the course; later simple designs are worked out.

Elective in Pharmacy; any term; 2 credits; 3 two-hour laboratory periods. Fee \$3.50. Deposit \$0.50.

M. O. Rawson

Phr 222. Sign-card Painting. A continuation of Phr 221 with the added feature of designing sign-cards in colors and painting on cloth, canvas, and glass.

Elective in Pharmacy; any term; 2 credits; 3 two-hour laboratory periods. Fee \$3.50. Deposit \$0.50.

M. O. Rawson

Phr 223. Sign-card Painting. A continuation of Phr 222 with work in shading with the air brush and other methods of the art of display.

Required in four-year curriculum in Pharmacy; freshman year; first term; 1 credit; 1 lecture. Fee \$3.50. Deposit \$0.50.

M. O. Rawson

Phr 224. Advertising Display. The principles of art and decoration applied to the arrangement of retail stores and display of merchandise; lettering; sign and card painting; lettering in colors on cloth, canvas, and glass; shading with the use of the air brush.

(Especially adapted to students in Commerce.) Not offered in 1922-23.

Elective; any term; 3 credits; 3 three-hour laboratory periods. Fee \$3.50. Deposit \$0.50. *M. O. Rawson*

Phr 311. Theoretical Pharmacy. Systematic study of the processes in operative pharmacy; study of standard pharmaceutical books, weights and measures, heat, distillation, solution, extraction in its various forms, and other processes used in the manufacture of galenical preparations.

Required in Pharmacy; junior year; first term; 4 credits; 2 lectures; 2 recitations. Text: Arny, Principles of Pharmacy.

A. Ziefle

Phr 321. Pharmaceutical Calculations. Study of calculations common to pharmacy; weights and measures; percentage solutions; alligations; specific gravity; thermometers; etc.

Prerequisites: Phr 311; Ch 104, 105. Required in Pharmacy; junior year; third term; 2 credits; 1 lecture; 1 recitation. Text: Stevens, Pharmaceutical Arithmetic.

M. O. Rawson

Phr 333. Practical Pharmacy. Natural products used in pharmacy explained and demonstrated; study of the various types of galenical preparations as outlined in Part II of Arny's Principles of Pharmacy.

Prerequisites: Phr 311; Ch 104, 105. Required in Pharmacy; junior year; second term; 3 credits; 2 lectures; 1 recitation. Texts: Arny, Principles of Pharmacy. Ruddiman, Why's in Pharmacy.

A. Ziefle

Phr 343. Pharmaceutical Preparations. Laboratory work in the preparation of simple galenicals, such as waters, pills, emulsions, extracts, etc. All work is under supervision of instructors, and the finished products are carefully inspected in order to prevent inaccuracies and to insure neatness. Frequent identification examinations of preparations are held to familiarize students with the characteristics of the drugs they use.

Prerequisites: Phr 333; Ch 104, 105. Required in Pharmacy; junior year; third term; 3 credits; 3 three-hour laboratory periods. Fee \$8.50. Deposit \$1.50. Texts: U. S. Pharmacopoeia. National Formulary.

M. O. Rawson

Phr 351. Pharmacognosy. Study of animal and vegetable drugs with reference to their habitat, botanical classification, official titles, synonyms, constituents, uses, identification, and standardization.

Prerequisites or parallel: Phr 311; Ch 106, 231. Required in Pharmacy; junior year; first term; 2 credits; 2 lectures; 1 recitation. Fee \$2.50. Text: Culberth, Materia Medica. *H. B. McWilliams*

Phr 352. Pharmacognosy. A continuation of Phr 351.

Required in Pharmacy; junior year; second term; 4 credits; 3 lectures; 2 recitations. Fee \$2.50. Texts: Culberth, *Materia Medica*. Lilly, *Organic Drugs*. *H. B. McWilliams*

Phr 353. Inorganic Pharmacy. Inorganic chemicals and their preparations used in medicine. Part III of Arny's *Principles of Pharmacy* is used as a lecture outline for this course. In the laboratory students make representative samples of certain types of chemicals, testing for such impurities as arsenic, lead, antimony, and study authentic samples of inorganic drugs for identification purposes.

Prerequisites: Phr 333, 343; Ch 104, 105. Required in Pharmacy; junior year; third term; 3 credits; 1 lecture; 1 recitation; 1 three-hour laboratory period. Fee \$5.00. Deposit \$1.00. Text: Arny, *Principles of Pharmacy*. *M. O. Rawson*

Phr 431. U. S. Pharmacopoeia and National Formulary. Every substance listed in the United States Pharmacopoeia and National Formulary as well as many unofficial drugs and preparations in the dispensaries are studied. Emphasis is placed on composition, uses, methods of manufacture, reasons for each step in the process of manufacture, and all other important data concerning the drug.

Prerequisites: Phr 343, 352; Ch 106, 231. Senior year; first term; 3 credits; 2 lectures; 2 recitations. Texts: U. S. Pharmacopoeia. National Formulary. Ruddiman, *Why's in Pharmacy*. *A. Ziefle*

Phr 432. U. S. Pharmacopoeia and National Formulary. A continuation of Phr 431, with frequent reports on all pharmaceutical literature especially as regards the newer remedies proposed since the last revision of the U. S. P. and N. F.

Prerequisites: Phr 431; Ch 226. Senior year; second term; 3 credits; 2 lectures; 2 recitations. Texts: U. S. P. and N. F. *A. Ziefle*

Phr 433. U. S. Pharmacopoeia and National Formulary. A continuation of Phr 432 with the added feature of preparing students for the State pharmacy examinations. In addition to a complete review of all pharmacy subjects and the study of typical state board questions, students are grounded in pharmaceutical legislation, identification of drugs and preparations, as well as in other subjects which will prepare students not only for the state examinations but for efficient service in practical drug-store work.

Prerequisite: Phr 432. Senior year; third term; 3 credits; 2 lectures; 2 recitations. Texts: U. S. P. and N. F. *A. Ziefle*

Phr 441. Manufacturing Pharmacy. This course is a continuation of the course in *Pharmaceutical Preparations* and deals with the

manufacture of the more difficult pharmaceuticals involving complex chemical reactions. Students assay their own products when practicable.

Prerequisites: Phar 333, 343; Ch 106, 231. Required; senior year; first term; 3 credits; 3 three-hour laboratory periods. Fee \$8.50. Deposit \$1.50. Texts: U. S. P. and N. F. *M. O. Rawson*

Phr 451. **Materia Medica.** Study of the action and uses of chemicals, drugs, and their preparations, in the human organism, in health and disease; drugs classified into groups according to their action; the dose of medicines; toxicology from the point of view of action of poisons, their absorption, elimination, identification, and antidotes.

Prerequisites: Phr 343, 352; Ch 106, 231. Required in Pharmacy; senior year; first term; 3 credits; 1 lecture; 2 recitations. Text: Cushny, Pharmacology. *H. B. McWilliams*

Phr 452. **Materia Medica.** A continuation of Phr 451.

Prerequisites: Phr 451, Ch 226. Required in Pharmacy; senior year; second term; 3 credits; 1 lecture; 2 recitations. Text: Cushny, Pharmacology. *H. B. McWilliams*

Phr 453. **Materia Medica.** A continuation of Phr 452 with preparation for state board examinations in this subject. State and national laws receive special attention.

Prerequisite: Phr 452. Required in Pharmacy; senior year; third term; 3 credits; 1 lecture; 2 recitations. Text: Cushny, Pharmacology. *H. B. McWilliams*

Phr 461. **Prescription Lectures.** Theory of prescription compounding practically as outlined in Scoville's Art of Compounding. The aim is to give such theoretical instruction as will enable the student to devise the best method of compounding drugs. Special attention is given to the "newer remedies" and such proprietaries as are used extensively.

Prerequisites: Phr 343, 352, 353; Ch 106, 231. Required in Pharmacy; senior year; first term; 4 credits; 2 lectures; 2 recitations. Text: Scoville, Art of Compounding. *M. O. Rawson*

Phr 462. **Prescription Incompatibilities.** Several hundred incompatible prescriptions studied from the point of view of the cause of the incompatibility as well as the best method of overcoming it; current pharmaceutical and medical literature abstracted in order that students may become familiar with the reactions of the newer remedies.

Prerequisites: Phr 461, Ch 226. Required in Pharmacy; senior year; second term; 4 credits; 2 lectures; 2 recitations. Text: Ruddiman, Incompatibilities in Prescriptions. *M. O. Rawson*

Phr 463. **Prescription Compounding.** In this course the students are expected to apply the principles learned in Phr 461 to the actual compounding of prescriptions. Over one hundred prescriptions are compounded, representing all types generally met with in actual practice. The latter part of the course deals with the management of a prescription department, the compounding of toilet and domestic preparations, as well as many other methods common to a pharmacy.

Prerequisites: Phr 462, Ch 227. Required in Pharmacy; senior year; third term; 3 credits; 3 three-hour laboratory periods. Fee \$8.50. Deposit \$1.50. Text: Scoville, Art of Compounding.

A. Ziefle, M. O. Rawson

School of Vocational Education

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.
EDWIN DEVORE RESSLER, A.M., Dean of the School of Vocational Education; Professor of Education.
CLYTIE MAY WORKINGER, Secretary to the Dean.

Agricultural Education

HEBER HOWARD GIBSON, A.M., Professor of Agricultural Education.
EARL DEWITT DOXSEE, B.Sc., Assistant Professor of Agricultural Education.
STEPHEN EDWARD SMITH, B.Sc., Critic Teacher in Agricultural Education.

Commercial Education

HERBERT TOWNSEND VANCE, Professor of Commercial Education.
BERTHA TALLMADGE HALL, Critic Teacher in Commercial Education.

Home Economics Education

BERTHA STEWART DAVIS, M.S., Associate Professor and Field Supervisor of Home Economics Education.
HATTY ROSELLE DAHLBERG, B.Sc., A.M., Associate Professor of Home Economics Education.
LURA AMELIA KEISER, B.Sc., Critic Teacher in Home Economics Education.
GLADYS LOUISE WHIPPLE, B.Sc., Critic Teacher in Home Economics Education.

Industrial Education

FRANK HENRY SHEPHERD, Pd.B., A.M., Professor of Industrial Education.
AMBROSE REUBEN NICHOLS, B.Sc., Instructor in Industrial Education.
ORVILLE GREENLEAF REEVES, B.Sc., Instructor and Critic Teacher in Industrial Education.

Psychology

JESSE FRANKLIN BRUMBAUGH, LL.B., A.M., Professor of Psychology.

*Basic Arts and Sciences**

M. ELLWOOD SMITH, Ph.D., Dean of the School of Basic Arts and Sciences; Director of the Summer Session.
FREDERICK BERCHTOLD, A.M., Professor of English Language and Literature.

*Here are listed members of other faculties offering instruction open to students in Vocational Education.

JOHN FULTON, M.S., Professor of Chemistry.

CHARLES BUREN MITCHELL, M.A., Professor of Public Speaking.

NATHAN FASTEN, Ph.D., Professor of Zoology and Physiology.

WALTER SCOTT, Ph.D., Associate Professor of Chemistry.

SIGURD HARLAN PETERSON, B.A., Assistant Professor of English.

JOSEPH ELLSWORTH SIMMONS, M.S., Assistant Professor of Bacteriology.

GEORGE REUBEN VARNEY, A.B., D.D., Assistant Professor of Public Speaking.

*Other Schools and Departments**

MARY ANNETTE ROLFE, M.A., Dean of Women.

GEORGE WILLIAMS MOSES, Colonel, Cavalry, United States Army; Professor of Military Science and Tactics; Commandant of Cadets.

HECTOR MACPHERSON, Ph.D., Professor of Economics and Sociology; Director of Bureau of Organization and Markets.

ULYSSES GRANT DUBACH, Ph.D., Professor of Government and Business Law.

FRANCIS LAWRENCE SNOW, Professor of Industrial Journalism.

EDNA AGNES COCKS, A.M., Professor of Physical Education for Women.

RICHARD BURR RUTHERFORD, A.B., Professor of Physical Education for Men.

NEWEL HOWLAND COMISH, M.S., Professor of Economics.

FRANK ABBOTT MAGRUDER, Ph.D., Associate Professor of Government and Business Law.

Systematic teacher-training was begun in the Oregon Agricultural College in 1909 with the establishment of a department of Industrial Pedagogy. This was in response to a demand by the public schools for qualified teachers of agriculture, commercial subjects, home economics, and manual training. The growth of the department, requiring specialists in methods and supervised teaching, made advisable a school organization, which was effected in 1918, with six departments. From the beginning and after the organization of the School, students preparing to teach have been registered in the schools in which their technical subjects are taught. Thus the prospective teacher of (a) agriculture received his degree in the School of Agriculture, (b) commercial subjects in the School of Commerce, and likewise in other lines.

Curriculum. Beginning with the year 1921-22, the School of Vocational Education is authorized to offer the B.Sc., degree. Students preparing to teach who enter the College as freshmen, however, are advised to register as heretofore in the degree curriculum

* Here are listed members of other faculties offering instruction open to students in Vocational Education.

in the school offering the technical work desired. The Oregon School Law grants a high-school teaching certificate to graduates of any degree curriculum offered in the College to students who have taken $22\frac{1}{2}$ term credits (15 semester credits) in Education. Students should consult the Dean of the School of Vocational Education in scheduling Education credits. The new degree curriculum is planned especially for students who desire to major in Vocational Education. Thirty-six credits in Education are prescribed and provision is made for additional Education credits under electives. In addition to the subjects prescribed by College regulations, general or cultural courses are recommended in recognition of the need of a broad training by the teacher, whose duties call for leadership outside the walls of the classroom. Several classes of students should profit by the new degree curriculum.

(1) In increasing number, graduates of two-year standard normal-school courses and transfers from colleges and other higher educational institutions are coming to the College with one or more years of college credit on entrance. Some of these students desire a more general course in vocational subjects than the degree curricula prescribed in the technical schools. The degree curriculum in Vocational Education, with its electives, makes possible the acceptance of college credits from other institutions and thus enables such students to enroll in the technical courses for which they come to the institution and still graduate within the four years generally allotted to an undergraduate course.

(2) Some students desire to prepare for supervisory and administrative vocational positions calling for more general courses than can be secured in any one of the technical schools. The large cities have such supervisors and smaller cities offering a variety of vocational courses are beginning to appoint them. There is a good field for specialization in this line. Such students desire to take technical courses in several schools and a larger number of courses in the pedagogical phases of vocational education.

(3) There are other students who wish to prepare to teach a combination of vocational branches, such as agriculture and manual training, commerce and home economics; or a combination of vocational branches with "related subjects," such as home economics and natural science, manual training and mathematics. There is, and will continue to be for many years, a considerable demand for such teachers in the smaller high schools of Oregon.

(4) A demand has recently arisen for instructors who are prepared to teach in vocational schools in the so-called "related subjects," including mechanical drawing, designing, shop mathematics, industrial chemistry, physics, business English, commercial

geography, commercial law, etc. The Federal and State Boards for Vocational Education make provision for the employment of such teachers under the Smith-Hughes Act. The Oregon Board of Vocational Education has assigned to this institution such teacher-training.

Opportunities. For the past several years, from fifty to seventy-five graduates annually have prepared to teach vocational subjects. Appointments exceeding one hundred, including previous graduates, are made each year to positions in Oregon, other Pacific Slope states, and also in the Middle West and the East. The principal field of service is in high schools, but the number receiving appointments in normal schools, colleges, and universities is increasing annually.

The School is called on to supply vocational teachers who are able to meet the standards set by the State Board of Vocational Education in accordance with the requirements of the Smith-Hughes Act. Teachers meeting these requirements, and securing positions under direction of the State Board, receive part of their salaries from Federal and State funds. The School of Vocational Education has been designated by the State Board to train such teachers.

The School of Vocational Education makes provision for giving further professional training to teachers in service and pedagogical training to men and women who already have technical knowledge and skill in a particular trade and desire training in teaching in that field. The College offers special opportunities to graduates of normal schools and schools of education, with teaching experience, for technical training in some line of vocational education or for special training in teaching and supervising vocational subjects.

Students are advised to consider carefully the selection of teaching as a vocation. Thorough scholarship and fair command of spoken and written English are fundamental essentials for success in the vocation of teaching. Personality, character, and professional aptitude are also demanded. Only capable candidates will be recommended for teaching positions.

Equipment. The technical courses of the School of Vocational Education are given in the Schools of Agriculture, Commerce, Engineering, Home Economics, and Basic Arts and Sciences, making available all their equipment to the students and instructors in the School of Vocational Education. The instructors in the professional courses in Education also use this equipment. For the courses in supervised teaching, there is available, in addition, the equipment of the Corvallis public schools through a joint arrangement between the Corvallis Board of Education and the Board of Regents of the College.

Admission. Detailed statements of entrance requirements, routine of registration, etc., are given in the special bulletin on "General Information," which is furnished on application. Requirements for admission to the curriculum in Vocational Education are as follows:

Applicants must be at least 16 years of age and must have completed 15 units of work in a secondary school recognized as standard, these units to include (a) at least 3 units of English, and 1 unit each of Elementary Algebra and Plane Geometry; (b) 6 additional units to be selected without restriction from among the following subjects: English, Mathematics, Modern Languages, Laboratory Sciences, and History (including Civics); and (c) 4 units selected from subjects credited towards graduation by standard high schools of Oregon.

Required Education Courses: The sequence of courses in Education is shown in the degree curriculum. For those students planning to complete the 22½ credits in Education, who are registered in the technical schools, the following courses are required: Elementary or Vocational Psychology (Psy 301 or 312), Principles of Teaching (Ed 313), Vocational Education (Ed 323), Secondary Education (according to major), Supervised Teaching (according to major). Other courses in Education, to make up the total of 22½ credits, are subject to election. Students are advised to consult with the Dean.

DEGREE CURRICULUM IN VOCATIONAL EDUCATION

Freshman Year.

| | 1st | Term | |
|--|----------|----------|----------|
| | | 2d | 3d |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| General Chemistry (Ch 101, 102, 103)..... | 3 | 3 | 3 |
| Library Practice (Lib 100)..... | --- | --- | 1 |
| Gymnasium (PEw 111, 112, 113) (women)..... | 1 | 1 | 1 |
| Social Ethics (PEw 121), Hygiene (PEw 122) (women) | 1 | 1 | --- |
| Gymnasium (PEm 111, 112, 113) (men)..... | (½) | (½) | (½) |
| Military Science and Tactics (men)..... | (2) | (2) | (2) |
| Technical electives* | 8 | 8 | 8 |
| | <hr/> 16 | <hr/> 16 | <hr/> 16 |

Sophomore Year.

| | 1st | Term | |
|--|------|------|------|
| | | 2d | 3d |
| Introduction to Education (Ed 302)..... | --- | 2 | --- |
| History of Education (Ed 341)..... | 3 | --- | --- |
| Vocational Education (Ed 323)..... | --- | --- | 2 |
| Practical Public Speaking (PSP 254) | 3 | --- | --- |
| English Drama (Eng 212)..... | --- | 3 | --- |
| Contemporary English Literature (Eng 323)..... | --- | --- | 3 |
| General Zoology (ZP 101, 102)..... | 3 | 3 | --- |
| Elements of Physiology (ZP 321) | --- | --- | 5 |
| Gymnasium (PEm 211, 212, 213) (men)..... | (1½) | (1½) | (1½) |
| Gymnasium (PEw 211, 212, 213) (women)..... | 1 | 1 | 1 |
| Military Science and Tactics (men)..... | (2) | (2) | (2) |
| ①Technical electives | 6 | 7 | 5 |
| | 16 | 16 | 16 |

Junior Year.

| | | | |
|---|-----|-----|-----|
| Introduction to Accounting (BA 101) | 3 | --- | --- |
| Introduction to Economics (ES 391)..... | --- | 3 | --- |
| Elementary Psychology (Psy 301)..... | 3 | --- | --- |
| Principles of Teaching (Ed 313)..... | --- | 2 | --- |
| Educational Psychology (Psy 322)..... | --- | --- | 3 |
| ②Courses in Secondary Education | --- | 3 | 3 |
| Introduction to Sociology (ES 393)..... | --- | --- | 3 |
| Elementary Industrial Journalism (IJ 200, 310)..... | 3 | 3 | --- |
| ①Technical and other electives | 7 | 5 | 7 |
| | 16 | 16 | 16 |

Senior Year.

| | | | |
|--|-----|-----|-----|
| Comparative Governments (PS 402) | --- | 3 | --- |
| ②Courses in Vocational Education | 5 | 5 | 5 |
| International Relations (PS 401) | --- | --- | 4 |
| National Government (PS 301) | 3 | --- | --- |
| ①Technical and other electives | 8 | 8 | 7 |
| | 16 | 16 | 16 |

Courses in degree curricula are designated by numbers of three digits in which the left-hand digit represents usually the year (as first, second, third, etc.) in which the course is normally pursued; the middle digit represents the group of related courses in the department to which the course belongs; and the right-hand digit represents the sequence of courses in cases where courses normally follow each other in succeeding terms.

①Subject to approval of the Dean.

②Selected according to major, subject to approval of the Dean.

AGRICULTURAL EDUCATION

This department is responsible for the training of teachers and supervisors of Agriculture in elementary and secondary schools, and the development of leadership in rural life and education. Special attention is given to the training of directors, supervisors, and teachers of Agriculture as provided for by the Federal law for vocational education known as the Smith-Hughes Act. Students who have completed the prescribed work for teachers of vocational agriculture have no difficulty in meeting the state requirements for certification in other states as well as in Oregon. Certain field studies and extension activities are included within the scope of this department's work.

Requirements in Agriculture. Teachers of vocational agriculture are required to have a degree in Agriculture with a minor in Agricultural Education. The Federal Board for Vocational Education suggests that approximately seventy percent of a student's credits should be in Agriculture and related sciences, including the basic sciences, and courses in Farm Mechanics, Animal Husbandry and Dairying, Poultry Husbandry, Soils and Crops, Horticulture, and Farm Management. For the prescribed freshman and sophomore courses consult the section of the Catalogue devoted to the School of Agriculture.

Requirements in Education. Not less than twenty-two and one-half term credits shall be in Education, of which sixteen are prescribed as follows: Elementary or Vocational Psychology (Psy 301 or 312), 3 credits; Principles of Teaching (Ed 313), 2 credits; Vocational Education (Ed 323), 2 credits; Secondary Education in Agriculture (AEd 401, 402), 3 credits each; Supervised Teaching in Secondary Agriculture (AEd 412 or AEd 413), 3 credits. Not later than the beginning of the junior year and during the junior and senior years the prospective teacher of Agriculture should confer with the department of Agricultural Education in planning his entire curriculum.

COURSES

AEd 401. Secondary Education in Agriculture. Aims, problems, materials, and methods relating to the teaching of vocational agriculture in the secondary schools; problems of curriculum building; selection, organization, presentation of the subject-matter of vocational agriculture; the use of local farms and community resources; the home project and other forms of supervised practice; community and extension activities; brief study of types of agricultural schools, classes, and high school departments in the United States.

Prerequisites: Psy 301; Ed 313, 323, either prerequisite or parallel. Junior or senior year; first or third term; 3 credits; 3 recitations.

H. H. Gibson, E. D. Doxsee

AEd 402. Secondary Education in Agriculture. Continuation of AEd 401, including a comparative study of the various methods of teaching with reference to their value, use, and adaptation in the field of agricultural teaching.

Prerequisite: AEd 401, or approval of the head of the department. Senior year; second term; 3 credits.

H. H. Gibson

AEd 412. Supervised Teaching of Secondary Agriculture. Observation and teaching of vocational agriculture conducted according to the Oregon State plan for vocational education under supervision of this department. The departments of agriculture of the local high schools are used for this teaching. Supervision of projects and assistance in community activities are an important phase of this course. To be preceded or accompanied by AEd 401, 402.

Senior year; any term; 3 credits; 3 double periods.

E. D. Doxsee, S. E. Smith

AEd 413. Supervised Teaching in Secondary Agriculture. Continuation of AEd 412. Apprentice teaching in agriculture department of Smith-Hughes high schools throughout the State under the supervision of the department.

Elective in Agricultural Education; senior year; any term; credits to be arranged.

E. D. Doxsee

AEd 431. Rural Education. The social and community elements of rural and agricultural education in relation to the school program; the place of the school in relation to other educational agencies in rural communities; selection and organization of subject-matter relating to social and community activities, and adapting to the needs of both elementary schools and high schools; analysis of methods that have been employed by various schools in the study and solution of community problems.

Junior or senior year; second term; 3 credits; 3 recitations.

H. H. Gibson

AEd 432. Club Work and Agriculture in the Elementary School. Aims, materials, and methods of teaching and supervising elementary agriculture in upper elementary grades and junior high school. Stress is given to club work, covering its history, scope, organization, supervision, and administration. For prospective agriculture teachers, county agents, and club leaders.

Elective; junior year; first or second term; 3 credits; 3 recitations.

E. D. Doxsee

AEd 482, 483. **Seminar in Agricultural Education.** A discussion of special problems in the teaching of agriculture and in the administration of agricultural education.

Required of graduate students and elective for seniors in Agricultural Education; second and third terms; time and credits to be arranged.
H. H. Gibson

AEd 533. **Rural School Surveys.** Principles and practice of making agricultural and rural education surveys as a basis for determining the content of courses and the methods of instruction. The major part of the class work is confined to the technique of making such surveys and to methods of analyzing, interpreting, and using the material and results of surveys already made. Brief studies of the results only of other forms of surveys, such as social, farm management, and soil surveys, which have an indirect bearing on the program of agricultural and rural education. Individual practice in making a survey of a rural high school district is required. Open to graduates with teaching experience and seniors by special permission.

Third term; 2 credits.

AEd 534. **Extension Course in Teacher Training.** This course is designed primarily for teachers of vocational agriculture in service who cannot be relieved of their professional duties to pursue courses that are offered in the Summer Session, but who wish to continue their professional improvement. The instruction centers around special problems confronting teachers of Agriculture in the normal execution of their work. A list of the problems, and complete and comprehensive outlines covering each problem, together with instructions for study and reports are furnished by this department. Personal conferences, follow-up instruction, and supervision, supplemented by correspondence and reports.

Any term; credits to be arranged.

COMMERCIAL EDUCATION

The department of Commercial Education has been organized to meet the steadily growing demand for well-equipped teachers of commercial branches in secondary schools. Such teachers are prepared in cooperation with the School of Commerce. The curriculum in the School of Commerce leading to the degree of Bachelor of Science makes possible reasonable preparation for commercial teaching. In the selection of their collegiate courses in both Commerce and Education, students should advise with the head of the department of Commercial Education. This department provides an equipment for teachers of commercial science in sec-

ondary schools that will place them and their work on a parity with those of other longer established and more fully developed departments of the high school.

The twenty-two and one-half credits in Education required for a certificate to teach in four-year high schools, issued without examination, may be earned during the college course, preferably in the junior and senior years. Vocational Psychology and Principles of Teaching should be taken before any methods course. The required Education courses must include one course in Secondary Education in Commerce and one course in Supervised Teaching in Commerce, the latter in the senior year. Supervised teaching is done in a public high school where conditions are normal and the experience real.

COURSES

CEd 451. Secondary Education in Commerce. Principles of education as applied to the teaching of shorthand, typewriting, business English, and bookkeeping in high schools; rapid review of subject-matter with model lessons in each subject; lectures covering aims, materials, methods of presentation, organization of courses, and arrangement of curriculum.

Prerequisites: OT 203, BA 103, Psy 301 or 312, Ed 313. Required of students preparing to teach stenographic subjects; junior year (third term) or senior year (first term); 3 credits; 3 lectures.

H. T. Vance

CEd 452. Secondary Education in Commerce. Same as CEd 451, with special methods in teaching Accounting, Business Law, Economics, and Commercial Geography.

Prerequisites: BA 203, PS 202, ES 203, Psy 301 or 312, Ed 313. Required of students preparing to teach accounting subjects; senior year; first or second term; 3 credits; 3 lectures.

H. T. Vance

CEd 461. Supervised Teaching in Commerce. Facilities are afforded students in Commercial Education to secure experience in teaching classes in stenographic subjects both at the College and at the Corvallis High School.

Prerequisite: CEd 451. Elective; senior year; any term; 5 credits; 1 lecture; 5 double periods.

H. T. Vance

CEd 462. Supervised Teaching in Commerce. Same as CEd 461, with supervised teaching in subjects of accounting group.

Prerequisite: CEd 452. Elective; senior year; any term; 5 credits; 1 lecture; 5 double periods.

H. T. Vance

CEd 470. Organization and Administration of Commercial Education. This course is planned for individuals who aspire to attain

administrative positions in the field of commercial education. Following is a partial list of topics discussed: objective evidence of the need of commercial education; analysis of business needs; business problems; employment; office training; types of commercial schools; educational store service; salesmanship; office experience through a cooperative plan; constructive supervision; the relation of the Federal Government to the administration of Commercial Education.

Prerequisites: CE_d 451, 452. Elective; senior year; any term; 3 credits; 3 lectures.

H. T. Vance

EDUCATION

This department gives general courses in Education upon which courses in special methods are based. The courses are open to all students prepared to take them.

COURSES

Ed 302. Introduction to Education. Brief discussion of the meaning, function, and scope of education; organization and function of each division of the American system; school and class management; general method; all with particular reference to the vocational teacher.

Required in Vocational Education; sophomore year; any term; 2 credits; 2 recitations.

E. D. Ressler

Ed 313. Principles of Teaching. Application of the laws of psychology to teaching; type lessons, lesson plans, supervised study, measuring results; application of general principles to the teaching of vocational subjects.

Required in Vocational Education; junior year; any term; 2 credits; 2 recitations.

H. H. Gibson

Ed 323. Vocational Education. Arranged to meet the needs of those preparing to teach any phase of vocational education. History and function of vocational education; development in the United States; requirements of Federal-aided schools and departments under the Smith-Hughes Act.

Required in Vocational Education (sophomore year, third term); elective for students in other schools (junior year, third term, or senior year, first or second term); 2 credits; 2 recitations.

E. D. Ressler

Ed 341. History of Education. A general review of the growth and development of education and its relation to the civilization of the times; particular attention given to the rise of industrial education in Europe and America, and its place in the social and political life of the country.

Elective; sophomore or junior year; first term; 3 credits; 3 recitations. *J. F. Brumbaugh*

Ed 431. **Vocational Guidance.** An investigation of the means and methods of assisting pupils of upper grammar grades and high school in studying the problems of their future vocations; studies of occupations with essential qualifications for success in leading types; value of "life career" motive in education; survey of state and local resources as guides to choice, etc.

Elective; junior or senior year; second or third term; 2 credits; 2 recitations. *F. H. Shepherd*

Ed 452. **School Administration.** A discussion and analysis of the American system of education, with an interpretation of the purpose and spirit of each division; problems of administration and teaching; correlation of the vocational branches with other subjects in the curriculum.

Elective; advanced or graduate students; second term; 2 credits; 2 recitations. *E. D. Ressler*

Ed 461. **School Hygiene.** A course in the health provisions requisite for the hygienic conduct of education. Oregon laws, regulations of the State Board of Health, and other State and local authorities explained in detail.

Elective; advanced or graduate students; third term; 2 credits; 2 recitations.

Ed 491, 492, 493. **Investigation.** Advanced or graduate students qualified by previous training or experience may register for extended investigation of some specific problem in vocational education. These studies are assigned and outlined by the instructor and stated reports are made from time to time by the student.

Elective; advanced or graduate students; three terms; credits to be arranged.

HOME ECONOMICS EDUCATION

The function of this department is to give professional training to prospective teachers and extension workers in Home Economics.

(For the four-year curricula leading to the bachelor's degree in Home Economics see the Home Economics section of the Catalogue.)

COURSES

HEd 304. **Secondary Education in Home Economics.** A brief history of Home Economics instruction and of the development of elementary and secondary Home Economics; equipment and organization of Home Economics departments; a careful study of the means and methods of Home Economics instruction; outlines of course of study.

Required of all students preparing to teach Home Economics; junior year (second or third term) or senior year (first term); 3 credits; 3 recitations.

Hatty R. Dahlberg

Hed 305. Secondary Education in Home Economics. Observations of teaching, making of lesson plans; study of special problems and the preparation and collection of illustrative material.

Prerequisites: Hed 304, Psy 301. Required of all students preparing to teach Home Economics; junior year (third term) or senior year (first or second term); 3 credits; 3 recitations.

Hatty R. Dahlberg

Hed 421. Supervised Teaching in Home Economics. Observation and teaching under supervision. Teaching field includes grades and high school in city, small town, and rural district. Cadet or apprentice positions provide additional experience.

Prerequisite: Hed 305. Required of all students preparing to teach Home Economics; senior year; any term; 5 credits; 2 recitations; 5 double periods supervised teaching.

Hatty R. Dahlberg, Lura Keiser, Gladys Whipple

Hed 422. Supervised Teaching in Home Economics. Continuation of Hed 421. An advanced course.

Prerequisite: Hed 421 or teaching experience. Elective; senior year; any term; 3 credits; 5 periods teaching.

Hatty R. Dahlberg, Lura Keiser, Gladys Whipple

Hed 443. Extension Methods. This course is planned to give to successful teachers and others qualified and interested in extension work, the extension aim and point of view, presenting a discussion of organization and administration, executive problems, relationships, methods of work, and programs.

Elective; senior year; third term; 2 credits; 2 lectures; 4 hours outside preparation.

Jessie Biles

INDUSTRIAL EDUCATION

This department gives professional training to teachers of the trades and industries, Manual Training, and Industrial Arts. Although the College does not give technical training for all the trades and industries, this department makes provision for giving further professional training to teachers in service and pedagogical training to men and women who have technical knowledge and skill in particular trades which they purpose to teach. Courses are given in Portland as well as in Corvallis. Those who are contemplating training for teaching the trades and industries should make inquiry concerning the particular line in which they may be interested. The institution

is prepared at the present time to give training in the following trades: plumbing, foundry work, blacksmithing, carpentry, cabinet-making, and machine-shop practice.

COURSES

IEd 303. Special Methods in Trades and Industries. The organization, administration, and teaching of industrial subjects to conform to the requirements of the Smith-Hughes Act; investigation into the values of different elements of selected trades or industries for the purpose of selecting a well-balanced course of study; lectures, readings, discussions, and written reports.

Prerequisites: Psy 301 or 312, Ed 313. Required of students preparing to teach a trade or industry; junior year (third term) or senior year (first term); 4 credits; 4 recitations.

A. R. Nichols, O. G. Reeves

IEd 343. Special Methods of Manual Training. A careful, detailed study of the public-school course of study in Manual Training in its various relations; model courses of study for both elementary and secondary grades outlined; plans for desirable equipment for shop and classroom.

Prerequisites: Psy 301 or 312, Ed 313. Required in Industrial Arts; junior year (third term) or senior year (first term); 4 credits; 4 recitations.

A. R. Nichols, O. G. Reeves

IEd 382. Theory and Practice of Elementary Manual Arts. For supervisors of industrial arts in the lower grades. Investigation of the present trend of the manual arts movement; arrangement of a suggestive course of study; plan of equipment; ordering of supplies, etc.; lectures; assigned readings, reports, and practical shop work.

Required in Industrial Arts; elective to others; junior or senior year; second term; 3 credits; 2 recitations; 1 two-hour laboratory period.

A. R. Nichols

IEd 421. Supervised Teaching in Trades and Industries. The student is required to arrange and submit definite plans and outlines of the subject, job, or lesson to be taught. Reports to the director, supervisor, or critic teacher are made for the purpose of perfecting the student teacher in the technique of the trade of teaching.

Prerequisite: IEd 303. Required of students preparing to teach a trade or industry; senior year; first or third term; 5 credits; 1 recitation; 5 double periods.

H. H. Gibson

IEd 461. Supervised Teaching in Manual Training. Required of all seniors in Industrial Arts.

Prerequisite: IEd 343. Required in Industrial Arts; senior year; any term; 5 credits; 1 recitation; 5 double periods.

O. G. Reeves

PSYCHOLOGY

This department gives the courses in Psychology upon which the studies in education are built and such other courses as directly affect human behavior. All courses are elective to students prepared to take them.

COURSES

Psy 301. **Elementary Psychology.** A preparatory course in the fundamentals of mental life from the functional standpoint; emphasis upon the application of psychical laws to the ordinary affairs of life.

Required; junior year; any term; 3 credits; 3 lectures.

J. F. Brumbaugh

Psy 312. **Vocational Psychology.** Application of psychological laws to the active pursuits of life; the field of habit in relation to skill and economy; perception in relation to accuracy in space discrimination; color, weight, shape, and tactile sensations; motor response in relation to stimulation, coordination, and inhibition; memory, suggestion, and imitation in relation to business pursuits; the psychology of commerce as it develops in the relation of man to man, of trust and faith in human affairs, modes of activity, etc.

Required for prospective Smith-Hughes teachers; junior or senior year; first or third term; 3 credits; 3 lectures.

J. F. Brumbaugh

Psy 322. **Educational Psychology.** Follows Psy 301. Principles and laws of mental life and development as applied to the teaching process; psychological value of the various methods and paraphernalia of school life.

Required; junior year; second or third term; 3 credits; 3 lectures.

J. F. Brumbaugh

Psy 433. **The Child Mind.** Consideration of the physical and mental development of the child in the various stages; aspects and inter-relations, hygienic and moral sides receiving special attention.

Prerequisite: Psy 301. Elective; junior or senior year; second term; 2 credits; 2 lectures.

J. F. Brumbaugh

Psy 473. **Principles of Education.** This course expounds the general problem of education and the merits and demerits of the various theories of education as they have succeeded each other, together with the numerous principles which have sprung from such doctrines and the modern reinterpretations of aims and practices connected therewith.

Elective; junior or senior year; second term; 2 credits; 2 lectures.

J. F. Brumbaugh

Eth 482. **Ethics.** Meaning of our moral conceptions and principles; why they are binding; whence they are derived; a consideration of every-day customs and practices in the light of these principles; study of professional codes.

Elective; junior or senior year; second or third term; 3 credits; 3 lectures.

J. F. Brumbaugh

Chemical Engineering

FLOYD ELBA ROWLAND, Ph.D., Professor of Industrial Chemistry.

Chemical Engineering has become a necessary science in the economic management of many of the industries of life. The present need in this country to create new industries to supply products of manufacture formerly imported from abroad, has emphasized the demands upon chemistry and chemical engineering.

The curriculum in Chemical Engineering is arranged so that attention is given to the fundamental principles of chemistry. Thorough courses are given in General, Analytical, Organic, and Physical Chemistry, Modern Languages, Physics, Mathematics, and Mechanical and Electrical Engineering are also emphasized. During the course specialized work in Applied Chemistry is taken.

The courses in Industrial or Applied Chemistry given in connection with Chemical Engineering are arranged as follows: (1) Engineering Chemistry (one course); (2) Industrial Inorganic Chemistry (two courses); (3) Industrial Organic Chemistry (two courses); (4) Electrochemical Industries (one course). After performing a limited number of standard experiments in Industrial Chemistry, the student is permitted to select special problems, pertaining, for the most part, to the Northwest, thus enabling him to follow a given line more fully. Problems are studied as to (1) Raw Materials; their valuation and treatment. (2) Process; chemical control and types of apparatus employed in chemical work. (3) Products of Manufacture; their purity and uses. Methods of analysis and the processes involved in large-scale manufacture are studied as described in current literature. In the senior year students are permitted to elect research which permits them to investigate problems and aids in developing their ability for original investigations.

Local chemical industries are visited for the purpose of observing operation on a practical scale. Companies engaged in this work have been most generous in their cooperation.

There is a great need in the West for chemical engineers to help develop the vast resources. For this reason graduates are strongly advised to take advanced work and to extend their knowledge along chosen lines of research so that they may be better fitted to attack problems on their own responsibility.

Admission. Detailed statements of entrance requirements, routine of registration, etc., are given in the special bulletin devoted to General Information, which is furnished on application. Applicants for admission to the degree curriculum in Chemical Engi-

neering must be at least 16 years of age and must have completed 15 units of work in a secondary school recognized as standard, these units to include (a) at least 3 units of English, 1 unit each of Elementary Algebra and Plane Geometry, and $\frac{1}{2}$ unit of Higher Algebra; together with (b) $5\frac{1}{2}$ additional units to be selected without restriction from among the following subjects: English, Mathematics, Foreign Languages, Laboratory Sciences, and History (including Civics); and (c) 4 units selected from subjects credited toward graduation in standard high schools of Oregon.

DEGREE CURRICULUM IN CHEMICAL ENGINEERING

Freshman Year

| | Term | | |
|---|---------------|---------------|---------------|
| | 1st | 2d | 3d |
| Chemical Engineering Survey (ChE 101, 102, 103)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| General Chemistry (Ch 104, 105, 106) | 5 | 5 | 5 |
| Engineering Physics (Ph 111, 112, 113)..... | 3 | 3 | 3 |
| Plane Trigonometry (Mth 111), Elementary Analysis (Mth 131, 132) | 4 | 4 | 4 |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| Gymnasium (PEm 111, 112, 113)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 2 | 2 | 2 |
| | <hr/> 18 | <hr/> 18 | <hr/> 18 |

Sophomore Year

| | | | |
|---|------------------------|------------------------|------------------------|
| Qualitative Analysis (Ch 231), Quantitative Analysis (Ch 244, 245) | 5 | 5 | 5 |
| Differential Calculus (Mth 251), Integral Calculus (Mth 252, 253) | 4 | 4 | 4 |
| Elementary German (ML 131, 132, 133) | 3 | 3 | 3 |
| Mechanical Drawing (ME 111) | 2 | ..... | ..... |
| Library Practice (Lib 100) | 1 | ..... | ..... |
| Technical Electricity (EE 251) ..... | ..... | 3 | ..... |
| Electrical Machinery (EE 252) ..... | ..... | ..... | 3 |
| Gymnasium (PEm 211, 212, 213) | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Military Science and Tactics | 2 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Junior Year

| | | | |
|---|----------|----------|----------|
| Engineering Chemistry (ChE 311) | 3 | ..... | ..... |
| Industrial Inorganic Chemistry (ChE 321, 322) ..... | ..... | 3 | 3 |
| Organic Chemistry (Ch 322, 323), Organic Analysis (Ch 328) | 5 | 5 | 5 |
| Intermediate German (ML 231, 232, 233) | 3 | 3 | 3 |
| Materials of Engineering (MM 311) | 3 | ..... | ..... |
| Metallography and Pyrometry (MM 481) ..... | ..... | 3 | ..... |
| Power Laboratory (ME 331) | 3 | ..... | 3 |
| ①Electives | 3 | 3 | 3 |
| | <hr/> 17 | <hr/> 17 | <hr/> 17 |

①Suggested electives: Elementary French (ML 111, 112, 113), General Bacteriology (Bac 204, 205), Hydraulic Laboratory (CE 348).

Senior Year

| | 1st | Term 2d | 3d |
|---|-----|------------|-----|
| Industrial Organic Chemistry (ChE 431, 432) | 3 | 3 | --- |
| Electrochemical Industries (ChE 441) | --- | --- | 3 |
| Physical Chemistry (Ch 481, 482, 483) | 3 | 3 | 3 |
| Introduction to Economics (ES 391) | 3 | --- | --- |
| National Government (PS 301) | --- | --- | 3 |
| Business Organization and Management (BA 381) | --- | 3 | --- |
| Elementary French (ML 111, 112, 113) | 3 | 3 | 3 |
| ①Electives | 4½ | 4½ | 4½ |
| | 16½ | 16½ | 16½ |

COURSES

ChE 101 102, 103. **Chemical Engineering Survey.** A course of lectures for freshmen in Chemical Engineering. The course is designed to broaden the point of view of students and to bring them into closer relation with the department. The lectures include a study of great chemists, and the important chemical industries.

Required in Chemical Engineering; freshman year; three terms; 1 lecture; ½ credit each term. *F. E. Rowland*

ChE 311. **Engineering Chemistry.** A course of lectures and laboratory work on the subjects of fuel, combustion, refractories, lubricants, boiler feed waters, iron, steel, alloys, cements.

Required in Chemical Engineering; junior year; first term; 3 credits; 2 lectures; 2 three-hour laboratory periods. Fee \$7.50. Deposit \$2.50. *F. E. Rowland*

ChE 321, 322. **Industrial Inorganic Chemistry.** The principal inorganic industries studied in lectures and in the laboratory from the standpoint of modern scientific and applied Chemistry. The laboratory instruction is arranged to develop ability on the part of the student to carry on independent work with confidence. The principles involved in the problems are carefully studied before the laboratory manipulation is attempted.

Required in Chemical Engineering; junior year; second and third terms; 3 credits each term; 2 lecture periods; 2 three-hour laboratory periods. Fee \$7.50 each term. Deposit \$2.50 each term.

F. E. Rowland

ChE 431, 432. **Industrial Organic Chemistry.** Lectures and laboratory work covering the chief organic branches of industrial chemistry. Emphasis is given to the fundamental principles involved in the various processes studied. The topics studied include: mineral,

①Suggested electives: Advanced Organic Chemistry (Ch 421, 422, 423), Research (ChE 451, 452, 453).

vegetable, and animal oils; soap; glycerine; rubber; leather; explosives; sugar; starches; destruction distillation of coal and wood.

Required in Chemical Engineering; senior year; first and second terms; 3 credits each term; 2 lectures; 2 three-hour laboratory periods. Fee \$7.50 each term. Deposit \$2.50 each term.

F. E. Rowland

ChE 441. **Electrochemical Industries.** Application of the electric current to the manufacture of chemical materials by electrolytic and electrothermal methods. In the lectures and laboratory work the following topics are treated: sodium hydroxide and chlorine, hypochlorites, chlorates, perchlorates, oxygen, hydrogen, carbide, graphite, carbon disulfide, phosphorus, sodium, magnesium, aluminum.

Required in Chemical Engineering; senior year; third term; 3 credits; 2 lectures; 2 three-hour laboratory periods. Fee \$7.50. Deposit \$2.50.

ChE 451, 452, 453. **Research.** Consultation, library, and laboratory work. A course in which the student is permitted to investigate problems independently of others. The preparation of a thesis will be required as evidence of the student's ability.

Elective; senior year; credits to be arranged. Fee \$1.50 each credit. Deposit \$2.50.

F. E. Rowland

Industrial Journalism

FRANCIS LAWRENCE SNOW, Professor of Industrial Journalism.

CHARLES JARVIS MCINTOSH, B.S.D., B.Sc., Assistant Professor of Industrial Journalism.

HOMER LEE ROBERTS, Student Assistant in Industrial Journalism.

Courses in Industrial Journalism are offered to train students to write and edit material on various subjects embraced within the distinctive field of the College, such as Agriculture, Engineering, Forestry, Mining, Home Economics, and the like; to enable them to take positions on farm and trade papers, and other publications, especially where writing on industrial subjects is required; to conduct campus publications and other publications of a technical nature; and to furnish scientific material in popular form to the papers.

These courses are intended to meet the needs of a large group of persons—farmers, county agricultural agents, home demonstration agents, field specialists in the agricultural extension service, research specialists at the agricultural experiment stations, teachers of industrial subjects, and others who may have occasion to prepare material for the press on industrial subjects.

The courses taught are thoroughly practical and form a valuable asset for those who aim to become leaders of community enterprises through the press and in any other capacity for which their technical training fits them. Industrial Journalism does not displace fundamental work in English but supplements it by giving the technique of journalistic writing.

COURSES

IJ 200. **Elementary Industrial Journalism.** Intended primarily to give students the fundamental principles of news writing. Prepares them for writing technical articles on subjects pertaining to Agriculture, Home Economics, Engineering, etc. Required as a condition of eligibility for leading positions on the staffs of student publications.

Elective; sophomore, junior, or senior year; any term; 3 credits. Fee \$1.00. Text: Spencer, *News Writing*. *F. L. Snow*

IJ 204. **Journalism Practice I.** IJ 204, 314, and 334 constitute laboratory practice for courses IJ 200, 310, 330 respectively. Opportunity is given to put the fundamental principles of journalism into practice. In IJ 204 and 314, "beats" are assigned and students receive practical experience in reporting. Special assignments are also given. Students are expected to write for publication. These cour-

ses offer students the advantages of training and experience in connection with instruction in corresponding courses.

Elective; 2 credits. Fee \$1.00.

F. L. Snow

IJ 310. **Industrial Journalism.** Continuation of work in course IJ 200. Principles of journalism are applied to the treatment of industrial subjects. Types of news stories are studied, feature stories being given special consideration.

Prerequisite: IJ 200. Elective; junior or senior year; second term; 3 credits; 3 lecture periods. Fee \$1.00.

F. L. Snow

IJ 314. **Journalism Practice II.** See IJ 204. Accompanies IJ 310.

Elective; junior or senior year; second term; 2 credits. Fee \$1.00.

F. L. Snow

IJ 320. **Editing.** Copy reading, head writing, proof reading, and make-up. Actual experience is given in editing copy for publication. Training is offered that fits students for the work of putting out campus publications.

Prerequisites: IJ 200, 310. Elective; junior or senior year; first term; 3 credits; 3 lecture periods. Fee \$1.00.

C. J. McIntosh

IJ 330. **Technical Journalism.** Students are required to prepare copy on subjects pertaining to Agriculture, Engineering, Commerce, Home Economics, etc., and to submit it for publication in farm journals, trade journals, and other periodicals. A study is made of the demands of these publications for material of a more or less technical nature. Attention is given to illustration. Preparation of publicity matter is considered.

Prerequisites: IJ 200, 310. Elective; junior or senior year; third term; 3 credits; 3 lecture periods. Fee \$1.00.

F. L. Snow

IJ 334. **Journalism Practice III.** See IJ 204. Accompanies IJ 330.

Elective; junior or senior year; third term; 2 credits. Fee \$1.00.

F. L. Snow

IJ 440. **Editorial Writing.** Materials, style, and arrangement of periodical editorials are considered. Training is given in writing editorials. Principles of policy and ethics are studied and applied. The make-up of the editorial page of farm and trade journals is given attention.

Prerequisite: IJ 320. Elective; senior year; second term; 3 credits; 3 lecture periods. Fee \$1.00.

C. J. McIntosh

Library

LUCY MAY LEWIS, A.B., B.L.S., Librarian.
LUCIA HALEY, A.B., Continuations Librarian.
NELLE BRANCH, A.B., B.L.S., Reference Librarian.
ELIZABETH RITCHIE, A.B., B.L.S., Cataloguer.
BERTHA HERSE, B.Sc., in charge of Periodicals and Binding.
ELIZABETH PALM, B.Sc., Head of Circulation Department.
EDITH HAGUE, A.B., B.L.S., Continuations Assistant.
ETHEL ALLEN, B.Sc., Periodicals Assistant.
ETHEL GOUDY, Circulation Assistant.
LAUREL CANNING, A.B., Circulation Assistant.
EVANGELINE THURBER, Reference Assistant.
ELZIE VANCE HERBERT, Order Clerk and Stenographer.

Equipment. The library is housed in a beautiful new building well adapted to library uses. The reading and general reference room is large and well-lighted, extending entirely across the building. It is supplied with over 600 leading magazines and newspapers. The books of the library consist of about 60,000 volumes of works of history, biography, engineering, agriculture, natural science, general literature and reference; and the reports and other publications from the agricultural colleges and experiment stations of all the states, with about 186,000 bulletins and pamphlets. The library is a designated depository of United States Government publications, and owns a collection of over 2,000 documents received as a gift from the library of the late United States Senator Dolph.

Practical use of the books has led to the establishment of small laboratory collections kept in the rooms of the following departments: General Chemistry, Agricultural Chemistry, Animal Husbandry, Agronomy, Horticulture, Botany, Forestry, Bacteriology, Zoology, Pharmacy, Commerce, and Civil, Chemical, Mechanical, Electrical, and Mining Engineering. Each department library is in charge of the head of the department, to whom application must be made for use of the books.

All books are classified and catalogued according to the Dewey decimal system.

Books may be drawn for home use by all officers and students of the College. Books may be kept by the students for two weeks with the privilege of a renewal, and by officers for any reasonable time. Seniors and graduate students may have access to the shelves for special study if recommended to the Librarian by the head of the department under whom they are studying.

The reference collection is located in the reading and reference room and consists of encyclopedias, dictionaries, standard reference books in the different departments of study, and bound files of general, literary, and economic periodicals. A collection of books for cultural reading is also kept in the reading room.

The continuations collection is a technical reference collection of the publications of the United States and foreign governments, and the states of the United States, of colleges, and learned societies, and other material appearing in numbered series at irregular intervals. Duplicates of the most-used material are kept for circulation and for class reserve work.

The technical periodical reference room, on the first floor, includes bound sets of technical periodicals numbering about 2,100 volumes, and the current numbers of technical periodicals.

Catalogues. The library maintains in the reading room a general catalogue of all library books on the campus. This is arranged alphabetically by author, title, and subject. There is also a card catalogue of the publications of the United States Department of Agriculture arranged in the same manner, and a card index to the publications of the state experiment stations, which is a subject catalogue.

COURSE

Lib 100. Library Practice. This course is designed to give instruction in practical use of library catalogues and reference books, by lectures and practical problems requiring the students to use the various indexes, statistical books, encyclopedias, and special reference books. Each student is required to prepare a bibliography of at least twenty-five references on some practical subject.

Required in degree curricula; freshman year; any term; 1 credit; 1 lecture; 1 recitation; 1 one-hour laboratory period.

Lucy M. Lewis, Nelle U. Branch, Lucia Haley

Military Science and Tactics

COLONEL GEORGE WILLIAMS MOSES, Cavalry, United States Army, Professor of Military Science and Tactics; Commandant of Cadets, Reserve Officers' Training Corps.

LIEUTENANT-COLONEL JOSEPH KEPNER PARTELLLO, Infantry, United States Army, Assistant Professor of Military Science and Tactics; Executive Officer.

MAJOR CUSHMAN HARTWELL, Cavalry, United States Army, Assistant Professor of Military Science and Tactics. In charge of Cavalry Unit, Reserve Officers' Training Corps.

MAJOR WALTER WINTON, Field Artillery, United States Army, Assistant Professor of Military Science and Tactics. In charge of Field Artillery Unit, Reserve Officers' Training Corps.

MAJOR HENRY TERRELL, Jr., Infantry, United States Army, Assistant Professor of Military Science and Tactics. In charge of Infantry Unit, Reserve Officers' Training Corps.

MAJOR MORRIS JOSEPH HERBERT, United States Army, Retired, Assistant Professor of Military Science and Tactics. Adjutant and Acting Quartermaster; Personnel Adjutant, Reserve Officers' Training Corps.

CAPTAIN PATRICK HENRY TANSEY, Corps of Engineers, United States Army, Assistant Professor of Military Science and Tactics. In charge of Engineer Unit, Reserve Officers' Training Corps.

CAPTAIN JOSEPH LEONARD TUPPER, Infantry, United States Army, Assistant Professor of Military Science and Tactics. Instructor Infantry Unit, Reserve Officers' Training Corps.

CAPTAIN JOHN EDWIN SELBY, Cavalry, United States Army, Assistant Professor of Military Science and Tactics. Instructor Cavalry Unit, Reserve Officers' Training Corps.

CAPTAIN GEORGE FRIDJHOF BLOOMQUIST, Infantry, United States Army, Assistant Professor of Military Science and Tactics. Instructor Infantry Unit, Reserve Officers' Training Corps.

CAPTAIN ARCADJ GLUCKMAN, Infantry, United States Army, Assistant Professor of Military Science and Tactics. Instructor Infantry Unit, Reserve Officers' Training Corps.

CAPTAIN GLENN SMITH FINLEY, Cavalry, United States Army, Assistant Professor of Military Science and Tactics. Instructor Cavalry Unit, Reserve Officers' Training Corps.

CAPTAIN LEE CARD, Quartermaster Corps, United States Army, Assistant Professor of Military Science and Tactics. In charge of Motor Transport Unit, Reserve Officers' Training Corps.

- CAPTAIN WARD ACKLEY, Infantry, United States Army, Assistant Professor of Military Science and Tactics. Instructor Infantry Unit, Reserve Officers' Training Corps.
- CAPTAIN LEO LEFTWICH PARTLOW, Field Artillery, United States Army, Assistant Professor of Military Science and Tactics. Instructor Field Artillery Unit, Reserve Officers' Training Corps.
- CAPTAIN MAYLON EDWARD SCOTT, Field Artillery, United States Army, Assistant Professor of Military Science and Tactics. Instructor Field Artillery Unit, Reserve Officers' Training Corps.
- FIRST LIEUTENANT JOHN CAMPBELL MOSES, Field Artillery, United States Army, Assistant Professor of Military Science and Tactics. Instructor Field Artillery Unit, Reserve Officers' Training Corps.
- FIRST LIEUTENANT WINFIELD CHAPPLE SCOTT, Cavalry, United States Army, Assistant Professor of Military Science and Tactics. Instructor Cavalry Unit, Reserve Officers' Training Corps.
- FIRST LIEUTENANT JAMES GEORGE CHRISTIANSON, Corps of Engineers, United States Army, Assistant Professor of Military Science and Tactics. Instructor Engineer Unit, Reserve Officers' Training Corps.
- FIRST LIEUTENANT ALBIN NACE CALDWELL, Quartermaster Corps, United States Army, Assistant Professor of Military Science and Tactics. Instructor Motor Transport Unit, Reserve Officers' Training Corps.
- CONTRACT SURGEON HARRY JOSEPH ANDERSON, United States Army. On duty with Reserve Officers' Training Corps.
- MASTER SERGEANT DENIS HAYES, United States Army, Retired, (Captain, Adjutant General's Department, Officers' Reserve Corps, United States Army), Assistant to Professor of Military Science and Tactics. Assistant to Acting Quartermaster, Reserve Officers' Training Corps.
- MASTER SERGEANT HERBERT CLARENCE SPEAR, D. E. M. L., (Captain Engineer Section, Officers' Reserve Corps, United States Army), Assistant to Professor of Military Science and Tactics. Assistant Instructor Engineer Unit, Reserve Officers' Training Corps.
- MASTER SERGEANT FRANK GEORGE HUNTER, D. E. M. L., United States Army, Assistant to Professor of Military Science and Tactics. Supply Sergeant, Reserve Officers' Training Corps.
- FIRST SERGEANT ANTHONY SCHMITZ, D. E. M. L., United States Army, (Captain, Cavalry Section, Officers' Reserve Corps, United States Army), Assistant to Professor of Military Science and Tactics. Assistant Instructor Cavalry Unit, Reserve Officers' Training Corps.
- FIRST SERGEANT JOHN HARSCH, Jr., D. E. M. L., United States Army, Assistant to Professor of Military Science and Tactics. Assistant Instructor Field Artillery Unit, Reserve Officers' Training Corps.

TECHNICAL SERGEANT WELEY GOLDEN, United States Army, Retired, (First Lieutenant, Engineer Section, Officers' Reserve Corps, United States Army), Assistant to Professor of Military Science and Tactics. Assistant Instructor Engineer Unit, Reserve Officers' Training Corps.

STAFF SERGEANT CLYDE LAFAYETTE FALLS, D. E. M. L., United States Army, (Second Lieutenant, Infantry Section, Officers' Reserve Corps, United States Army), Assistant to Professor of Military Science and Tactics. Assistant Instructor Motor Transport Unit, Reserve Officers' Training Corps.

SERGEANT THOMAS ROSS JARBOE, D. E. M. L., United States Army, (Captain, Infantry Section, Officers' Reserve Corps, United States Army), Assistant to Professor of Military Science and Tactics. Assistant to Personnel Adjutant, Reserve Officers' Training Corps.

SERGEANT BERT LORING DUNHAM, D. E. M. L., United States Army, Assistant to Professor of Military Science and Tactics. Assistant Instructor Field Artillery Unit, Reserve Officers' Training Corps.

SERGEANT HERBERT GEORGE CROCKER, D. E. M. L., United States Army, (Captain, Cavalry Section, Officers' Reserve Corps, United States Army), Assistant to Professor of Military Science and Tactics. Assistant Instructor Cavalry Unit, Reserve Officers' Training Corps.

SERGEANT EUGENE EDWARD LOSSETT, D. E. M. L., United States Army, Assistant to Professor of Military Science and Tactics. Assistant Instructor Infantry Unit, Reserve Officers' Training Corps.

SERGEANT MORRIS LOUIS WELSON, D. E. M. L., United States Army, Assistant to Professor of Military Science and Tactics. Assistant to Acting Quartermaster, Reserve Officers' Training Corps.

SERGEANT CLARENCE CALVIN WOODBURY, D. E. M. L., United States Army, Assistant to Professor of Military Science and Tactics, (Second Lieutenant, Infantry Section, Officers' Reserve Corps, United States Army), Assistant Instructor Infantry Unit, Reserve Officers' Training Corps.

SERGEANT EDWARD MACMANUS, D. E. M. L., United States Army, Assistant to Professor of Military Science and Tactics. Assistant Instructor Field Artillery Unit, Reserve Officers' Training Corps.

The Act of Congress establishing the Agricultural and Mechanical colleges was passed in the midst of the Civil War; it inaugurated the cadet corps and required military training of all able-bodied male students. The object of this requirement was to provide well-trained officers for citizen soldiers. The Act was supplemented on June 3, 1916, by another Act of Congress, passed in the midst of

the World War, establishing the Reserve Officers Training Corps. The object of the Corps is "to qualify students, by systematic and standard training methods, to be commissioned in the Officers Reserve Corps so that in time of national emergency, trained men, graduates of the College, may lead the units of the large armies on which the safety of the country will depend."

A Distinguished Institution. By order of the War Department, as a result of comparative inspection, the Oregon Agricultural College has been designated a Distinguished Institution in respect to its military training. This distinction places it in the class with such institutions as Harvard and Yale, and the great land-grant colleges such as the universities of Illinois, Wisconsin, Minnesota, and California.

R. O. T. C. Basic and Advanced Courses. In the fall of 1917 the War Department established at the Oregon Agricultural College both a Basic Course and an Advanced Course, Senior Division, in the Reserve Officers' Training Corps. The Basic Course covers the first two years of the college military training, enrolling physically fit men of the freshman and sophomore years except those who may be excused for cause by the College authorities. The Advanced Course comprises the third and fourth years of college military training, enrolling those men who have completed the Basic Course and who have shown proper interest and aptitude for the training and who are specially selected for further training in advanced work. Once enrolled in the Advanced Course, students are required to continue it throughout the remaining period of their undergraduate course. This obligation does not prevent them from severing their connection with the College, however, if their interests or desires prompt them to leave the institution either temporarily or permanently.

Five Branches of Training. Five branches of military training are offered at the College to qualified students of the R. O. T. C.: Infantry, Cavalry, Motor Transport, Engineers, and Field Artillery. In addition an excellent R. O. T. C. cadet band offers instruction in band practice. These several branches of training are each carried through four years of the college course and are open to students qualified to take them. In so far as is possible students are permitted to elect the particular branch of training they desire to take up. This election of branches, however, is subject to the percentage limitations on the enrollments in the different units as imposed by the War Department. The Infantry unit and the Cavalry unit are open to all students; the Motor Transport Unit is open to students in the Automotive and Mechanical Engineering depart

ments; the Engineer unit and the Field Artillery unit are open to students of any of the Engineering departments in the College. After the prescribed limit has been reached in any unit, students must be assigned to one of the remaining units. Students already enrolled in a unit are required to continue in that unit throughout the remainder of their course of training in the department of Military Science and Tactics. The training in all units corresponds to that for like units in the Regular Army.

Uniforms Provided by the Government. All members of R. O. T. C. units at this institution are provided by the United States Government with complete military uniforms including coat, breeches, cap, leggins, flannel shirt, and belt. These articles are issued to students free of charge and must be returned at the end of the college year or whenever a student severs his connection with the Military department of the College. To protect the College against financial loss from failure to return uniforms, a deposit in a sum to be determined will be required from each student enrolled in the R. O. T. C., this deposit to be returned to the student when uniform and equipment are returned to the Military department. A permanent retention of one dollar from each deposit is now being considered, with a view to forming a sinking fund for the Military department to cover unforeseen damage or loss to uniforms or equipment.

Commutation of Subsistence. Selected members of the Advanced Course (junior and senior years) of the R. O. T. C., who sign a special contract agreeing to certain conditions, including attendance at summer camps, are paid a cash commutation of subsistence (board) by the National Government at a certain rate per month throughout their entire two remaining academic years, including the vacation period between these years, while they are pursuing the Advanced Course. This amount varies according to the Government standard ration.

Benefits to Students Enrolling in the R. O. T. C. (a) A thorough military education which will fit students upon completion of the four-year course to render patriotic service to the nation in time of war as troop leaders and officers of the United States Reserves.

(b) A thorough and searching physical examination upon entrance to the R. O. T. C.

(c) A maximum of thirty (30) college credits which count toward a degree on graduation.

(d) A well disciplined body and mind and a knowledge of how to serve and where service can best be rendered.

(e) A complete new uniform of Government clothing, consisting of cap, flannel shirt, breeches, coat, and leggins. One such uniform is issued each student free each year.

(f) The free use of the latest model and very finest equipment of Infantry, Cavalry, Field Artillery, Engineers, and Motor Transport issued to this institution by the Government. The value of the Government equipment now on hand at the College is approximately a half million dollars.

(g) Generous and free allowance of both indoor and outdoor rifle ammunition for target practice, with expert instructors and the free use of rifles, target equipment, ranges, etc.

(h) Commutation of subsistence to all students who have completed the two-year basic course of the R. O. T. C. at the rate of \$12.00 a month (this amount subject to change), including months of the summer vacation. All R. O. T. C. students who have successfully completed the two-year basic course are eligible to draw this money, the only additional requirement being that they agree to attend the R. O. T. C. summer training camp of six weeks' duration usually held in June and July of each year. During their junior and senior years (including camp pay at one dollar a day in addition to all expenses), students may thus receive as commutation a total sum of approximately \$294.00 in cash. This in addition to uniforms and all other allowances specified.

(i) The privilege of attending summer camps (in the nature of a vacation) without expense of any kind. Summer camps last year were held at the following locations: Infantry Unit, Camp Lewis, Washington; Field Artillery Unit, Camp Knox, Louisville, Kentucky; Engineer Unit, Camp Humphreys, Virginia (near Washington, D. C.); Cavalry Unit, Monterey, California; Motor Transport Unit, San Francisco, California. Students attending these camps, in addition to contact with college men from all over the United States, have their entire expenses paid, including transportation, sleeping car accommodations, and an allowance of approximately \$3.00 a day for meals while enroute both ways, an additional complete uniform upon arrival at camp; board, lodging, medical and dental treatment while at camp; \$1.00 a day in cash to those students pursuing the advanced camp course of instruction; a thorough physical examination; an abundance of healthy, recreational amusement and diversion; excellent social attractions carefully supervised; and last, but not least, a course in military instruction of the very highest type and given by specially selected officers who are experts in their particular lines.

(j) A commission as a Second Lieutenant in the Officers' Reserve Corps of the United States Army upon successful completion of the four-year course.

(k) The selection of an honor graduate each year (distinguished colleges only, such as is O. A. C. this year) for permanent appointment in the Regular Army of the United States, no further mental examination being required.

(l) For those desiring, training as a musician in the R. O. T. C. Cadet Band, all instruments being furnished by the Government free of charge.

(m) Appointment as cadet officers and non-commissioned officers, making for student prestige in cadet organizations and on campus generally.

(n) Choice, within certain limits, of training for officers in either the Infantry, Field Artillery, Engineers, Cavalry, or Motor Transport Corps.

(o) Active competition with other universities and colleges maintaining units of the R. O. T. C. in rifle shooting, polo, exhibition drills, etc. Competitions to be held by sending representative teams to these institutions, etc.

(p) A bachelor's degree in Military Science and Tactics to those students successfully completing the Degree Curriculum in Military Science and Tactics.

The Reserve Officers' Training Corps is organized under authority of the Act of Congress of June 3, 1916, as amended by the acts of September 8, 1916, and July 9, 1918.

The primary object of the R. O. T. C. is to provide systematic military training at civil educational institutions for the purpose of qualifying selected students of such institutions as reserve officers in the military forces of the United States. It is intended to attain this object during the time that students are pursuing their general or professional studies with the least practicable interference with their civil careers, by employing methods designed to fit men physically, mentally, and morally for pursuits of peace as well as pursuits of war. It is believed that such military training will aid greatly in the development of better citizens. It should be the aim of educational institutions to maintain one or more units of the Reserve Officers' Training Corps in order that in time of national emergency there may be instantly available a large number of educated men physically efficient, trained in the fundamentals of military science and tactics, and fitted to lead intelligently the units of the armies upon which the safety of the country will depend. The extent to

which this object is accomplished will be the measure of the success of the Reserve Officers' Training Corps.

The Reserve Officers' Training Corps will enrich the educational resources of schools and colleges by contributing new problems, applications, and equipment. This work will not only vitalize the course of study but give to the student a training which will be as valuable to him in his industrial or professional career as it would be should the nation call upon him to act as a leader in its defensive forces.

Moreover, the wide variety of work recognized and accepted by the War Department as of intrinsic value for military purposes should leave on the mind of the student an indelible impression of the extent to which the modern army is the nation in arms. Commerce, industry, agriculture, and all the professions have each their contribution to make to the military organization.

A military unit is largely dependent for its efficiency upon the physical fitness of the individuals composing it. Physical training, therefore, forms an essential part of the military instruction. It is the policy to encourage and support the physical training given by the civilian teachers, thus cooperating with all other effective agencies in an effort to promote a more vigorous American manhood.

The policy adopted by the War Department to carry out the provisions of the Act of Congress of June 3, 1916, is a matter of vital importance to every citizen interested in the educational system of our country and the development of American youth. It will aim to give all students of the Reserve Officers' Training Corps, a thorough physical training, to inculcate in them a respect for all lawful authority, to teach the fundamentals of the military profession, leadership, and the special knowledge required to enable them to serve efficiently in the various branches of the military service.

Summer Training Camps. The summer training camps, which are held all over the United States, are designed to bring together, for a six-week course of intensive training in the field, the R. O. T. C. units of the different colleges of the country. Students of the Infantry Unit report to Camp Lewis, Wash.; those of the Engineer Unit, to Camp Humphreys, Va.; those of the Field Artillery Unit, to Camp Knox, Ky.; those of the Motor Transport Unit, to the Presidio, San Francisco, Cal.; those of the Cavalry Unit, to the Presidio, Monterey, Cal. Members of the Basic Course of each unit should, but are not required to, attend one summer camp. Members of the Advanced Course are required to attend the advanced camp held between the junior and senior years. Every student who completes the full four-year course of training should therefore have

attended at least two summer camps, although attendance at but one, the Advanced camp, is required, the Basic camp being voluntary. This will insure his receiving a commission in the Officers' Reserve Corps of the United States army upon graduation, provided he is otherwise qualified. Students incur no expense in attending these military camps, as the United States Government pays all traveling expenses to and from the camp and also living expenses including board, lodging, clothing, medical and dental treatment, and equipment while at the camp. Excellent facilities exist at each camp for adequate recreation and wholesome diversion.

Requirements. Four hours of military instruction each week are required for all men students in the two years of the Basic Course, and five hours each week in the two years of the Advanced Course to those students electing to take the Advanced Course. The wearing of the military uniform is required during hours set apart for military instruction. All members of the Military department are required to protect from loss or damage the clothing, arms, and equipment issued to them by the United States Government through the Military department of the College.

Military Credits for Graduation. A minimum of 12 credits in Military Science are required of all men for graduation. This comprises 6 credits for each of the first two years' basic work. Nine credits are given for the work of both senior and junior years, which is entirely voluntary. This makes a total of 30 credits for the entire R. O. T. C. work. If a student does not secure 12 credits in his first two years, he must continue his military work until this has been accomplished.

Adjustment of Credits. Students transferring to the Oregon Agricultural College with advanced credits from other educational institutions of equal rank will not be exempt from the military requirement but will be required to offer an equivalent of credits for the back military credits represented and accumulated. Students presenting credentials for military work taken at other educational institutions or for service in the U. S. Army, Navy, or Marine Corps may be given credit for such work in so far as it is deemed equivalent to the requirements of this institution. If for any reason a student is relieved from the military requirements, other credits must be substituted for the military credits.

Cadet Officers. The cadet officers and non-commissioned officers are selected at the beginning of each college year by the Commandant with the approval of the President of the College. Their appointment and promotion, together with their relative rank and standard in each grade, are determined on a basis of individual efficiency and merit. Cadet commissioned officers are selected from

the senior class, sergeants and higher non-commissioned officers from the junior class, and corporals from the sophomore class. The traditions of the College have made it a high honor to stand well in the Military department and the student commanders of the different R. O. T. C. units have invariably been men of superior attainments and character.

Equipment. The Military department has thoroughly modern and up-to-date equipment for its work, furnished by the National Government and valued considerably in excess of half a million dollars. The Armory is one of the largest and finest in the country and affords ample space for the military staff, arms room, assembly hall, and for military instruction in rainy weather. The War Department has detailed to the College twenty-two Army officers of the regular service, sixteen non-commissioned officers, and thirty-one privates. In addition, eighty-eight artillery and cavalry horses and four mules are supplied; together with motor transportation; Field Artillery big guns; motorized repair shop; ammunition wagons; Infantry, Field Artillery, Engineering, Motor Transport, and Cavalry equipment.

The Infantry equipment comprises new and latest pattern Springfield rifles, twelve hundred in number; twelve hundred Infantry field packs and equipment complete; four Browning machine guns; four Browning automatic rifles; one Stoke's mortar; one 37-mm. gun with all related equipment; hand and rifle grenades for instruction purposes; automatic caliber .45 pistols; twelve hundred shelter tents; approximately 100,000 rounds of rifle ammunition, together with a generous allowance of gallery, blank, pistol and dummy ammunition supplied for instruction in rifle firing. No charge is made for ammunition or other military supplies used by students. Modern up-to-date target ranges, both indoor and outdoor, are available for target practice with both rifle and pistol for all members of the R. O. T. C.

The Field Artillery Unit has a five-section battery of American three-inch guns complete. It also has one 155-mm. G. P. F. rifle, one 155-mm. howitzer Schneider, one 4.7-inch rifle, and one French, one British, and one American 75-mm. gun. For transport, there are provided eighty-eight horses, draft and riding; four mules, draft. Complete artillery harness for Artillery gun carriages, two 5-ton caterpillar tractors, two motorcycles with side cars, two F. W. D. ammunition trucks, one White reconnaissance car, one Dodge five-passenger car, one Artillery repair truck with tools valued at \$20,000.00, lathes, generators, welding outfits, etc. Besides these there are fire-control instruments, radio, telephones, range finders,

and every device furnished and developed for Field Artillery during the World War.

The Engineer Unit equipment includes eight transits, eight levels, four plane tables, sixteen Philadelphia rods, twenty-four stadia boards, hand levels, compasses, sliding rules, steel tapes, and ninety-six sets complete of standard sketching equipment for the making of military maps. It has also several sets of models illustrating various features of military engineering operations, such as pontoon bridges, barbed-wire entanglements, dugouts, relief of a completely fortified position, etc. Complete sets of maps for the solution of map reading and minor tactical problems are available.

The Motor Transport Corps Unit has a complete modern equipment for instruction in elementary automotive engineering, field operations, convoy practice, and shop work. The members of this unit are armed with the new Army Springfield rifle and in addition are taught the use of the motor equipment supplied. This equipment is as follows: one Cadillac touring car; one Dodge touring car; one Harley Davidson motorcycle (side car); one Indian motorcycle (solo); one Mack truck; three class "B" trucks; one Riker truck; two G. M. C. trucks; two Dodge light repair trucks; and one White truck.

The Cavalry Unit uses the Government horses on hand jointly with the Field Artillery Unit. Seventy-four sets of the new regulation cavalry equipment of the latest army pattern are available. This equipment includes McClellan saddles, saddle blankets, saddle pockets, bit and bridoon bridles, halters, etc. The members of this unit are equipped with latest pattern Springfield rifles, caliber .45, automatic pistols, and latest model cavalry sabers.

Military Fraternity. A chapter of the national military fraternity, "Scabbard and Blade," was installed on the campus during the spring of 1920. Membership is limited to those members of the Military department who have exhibited particular qualities of excellence in manhood, scholarship, military attainment, and academic standing, and in the prerequisites of a gentleman and of a patriotic citizen.

Degree Curriculum. Besides the Basic Course, which is compulsory, and the Advanced Course, which is elective, there is also offered a degree curriculum in Military Science and Tactics, with majors in Infantry, Field Artillery, Motor Transport, Cavalry, and Military Engineering, and leading to the degree of Bachelor of Science.

The military work of this curriculum comprises the Basic and the Advanced courses and six additional credits to be gained by submitting a thesis each term during the junior and senior years. The

rest of the work is made up of subjects selected from courses offered in various schools of the College.

This curriculum is designed to prepare men for appointment (subject to examination) as second lieutenant in the Regular Army. There are annually many vacancies in the grade of second lieutenant. Military authorities estimate that the United States Military Academy at West Point cannot possibly supply more than one-third of these annual vacancies. Hence the man especially trained, both by contact with the technical fields in which this institution affords instruction, and in the military and cultural subjects that help to fit a man for the duties of an officer, will be particularly qualified to receive such appointment. Existing legislation, moreover, provides that members of the Officers' Reserve Corps may be commissioned in the Regular Army as needed, subject to examination. In addition to its attractions from the point of view of leading directly to appointments (subject to examination) in the Regular Army, the curriculum affords an excellent foundation in citizenship.

This curriculum contains the commutation feature in the junior and senior years, and all the other benefits of the Basic and Advanced courses.

Students enrolling as candidates for a degree in Military Science and Tactics are required in their junior and senior years: (1) to subscribe for one of the general service papers; (2) to subscribe for the technical periodical pertaining to their chosen branch of service; (3) to subscribe to the mailing list of the General Service Schools at Ft. Leavenworth; (4) to join the service association of their branch of the service; (5) to submit in each term a thesis of not less than one thousand words upon an approved military subject. These theses are not necessarily the result of original research on the part of the student, but require outside reading and compilation of data from the periodicals and books available.

DEGREE CURRICULUM IN MILITARY SCIENCE AND TACTICS

INFANTRY, FIELD ARTILLERY, MOTOR TRANSPORT, CAVALRY

Freshman Year

| | Term | | |
|---|------------------------|------------------------|------------------------|
| | 1st | 2d | 3d |
| Military Science and Tactics (MS 111, 112, 113, or 121, 122, 123, or 131, 132, 133, or 151, 152, 153).... | 2 | 2 | 2 |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| French, Spanish, or German..... | 3 | 3 | 3 |
| General Chemistry (Ch 101, 102, 103)..... | 3 | 3 | 3 |
| Plane Trigonometry (Mth 111), Elementary Analysis (Mth 131, 132)..... | 4 | 4 | 4 |
| Library Practice (Lib 100)..... | 1 | --- | --- |
| Gymnasium (PEM 111, 112, 113)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Approved electives | 1 | 2 | 2 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Sophomore Year

| | | | |
|---|------------------------|------------------------|------------------------|
| Military Science and Tactics (MS 211, 212, 213, or 221, 222, 223, or 231, 232, 233, or 251, 252, 253).... | 2 | 2 | 2 |
| Modern Languages (continued from freshman year) | 3 | 3 | 3 |
| European History I, II (Hst 212, 213), Recent History of the United States (Hst 126)..... | 3 | 3 | 3 |
| Engineering Physics (Ph 111, 112, 113)..... | 3 | 3 | 3 |
| Plane Surveying (CE 121, 122, 123)..... | 5 | 4 | 5 |
| Gymnasium (PEM 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Approved electives | 1 | 2 | 1 |
| | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ | <hr/> 17 $\frac{1}{2}$ |

Junior Year

| | | | |
|--|----------|----------|----------|
| Military Science and Tactics (MS 311, 312, 313, or 321, 322, 323, or 331, 332, 333, or 351, 352, 353)..... | 3 | 3 | 3 |
| Theses (on approved Military subjects)..... | 1 | 1 | 1 |
| English Literature (Eng 321, 322, 323)..... | 3 | 3 | 3 |
| Elementary Commercial Geography (ES 21)..... | --- | 3 | --- |
| Practice Teaching (PEM 361), Methods of Coaching Athletic Teams (PEM 232, 233)..... | 2 | 2 | 2 |
| Approved electives | 8 | 5 | 8 |
| | <hr/> 17 | <hr/> 17 | <hr/> 17 |

Senior Year

| | 1st | Term 2d | 3d |
|--|-----|------------|-----|
| Military Science and Tactics (MS 411, 412, 413, or 421, 422, 423, or 431, 432, 433, or 451, 452, 453)..... | 3 | 3 | 3 |
| Theses (on approved Military subjects)..... | 1 | 1 | 1 |
| History of British Empire (Hst 411), History of South America (Hst 331), American Diplomatic History (Hst 421) | 3 | 3 | 3 |
| Electric Signaling (EE 433) | --- | --- | 2 |
| Comparative Governments (PS 402) | 3 | --- | --- |
| International Relations (PS 401) | --- | 4 | --- |
| Army Paper Work (BA 391) | --- | 2 | --- |
| Introduction to Accounting (BA 101) | --- | --- | 3 |
| Approved electives | 7 | 4 | 5 |
| | 17 | 17 | 17 |

MILITARY ENGINEERING**Freshman Year**

| | | | |
|--|------------------|------------------|------------------|
| Military Science and Tactics (MS 141, 142, 143)..... | 2 | 2 | 2 |
| Plane Surveying (CE 121, 122, 123)..... | 5 | 4 | 5 |
| Engineering Physics (Ph 111, 112, 113)..... | 3 | 3 | 3 |
| Engineering Drawing (CE 111, 112, 113)..... | 3 | 3 | 3 |
| Library Practice (Lib 100)..... | --- | 1 | --- |
| Plane Trigonometry (Mth 111), Elementary Anal- ysis (Mth 131, 132)..... | 4 | 4 | 4 |
| Gymnasium (PEM 111, 112, 113)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ |

Sophomore Year

| | | | |
|---|------------------|------------------|------------------|
| Military Science and Tactics (MS 241, 242, 243)..... | 2 | 2 | 2 |
| General Chemistry (Ch 101, 102, 103)..... | 3 | 3 | 3 |
| Technical Electricity (EE 251) | 3 | --- | --- |
| Electrical Machinery (EE 252) | --- | 3 | --- |
| English Composition (Eng 101, 102, 103)..... | 3 | 3 | 3 |
| Differential Calculus (Mth 251), Integral Calculus (Mth 252, 253)..... | 4 | 4 | 4 |
| Gymnasium (PEM 211, 212, 213)..... | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Approved electives | 2 | 2 | 5 |
| | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ | 17 $\frac{1}{2}$ |

Junior Year

| | | | |
|---|-----|-----|-----|
| Military Science and Tactics (MS 341, 342, 343)..... | 3 | 3 | 3 |
| Hydrology (CE 341), Hydraulics (CE 342), Hydraulics (CE 343) | 3 | 3 | 3 |
| Theses (on approved Military subjects)..... | 1 | 1 | 1 |
| Mechanics (MM 351, 352)..... | 3 | 3 | --- |
| Strength of Materials (MM 353)..... | --- | --- | 3 |
| Roads and Pavements (HE 313) | 5 | --- | --- |
| Masonry and Foundations (CE 372) | --- | 3 | --- |
| Structural Analysis (CE 387) | --- | --- | 2 |
| Army Paper Work (BA 391) | --- | 2 | --- |
| Approved electives | 2 | 2 | 5 |
| | 17 | 17 | 17 |

Senior Year

| | Term | | |
|---|------|------|------|
| | 1st | 2d | 3d |
| Military Science and Tactics (MS 441, 442, 443)..... | 3 | 3 | 3 |
| Structural Engineering (CE 482), Structural Design (CE 483, 484) | 4 | 5 | 5 |
| Economics of Highway Construction (HE 416)..... | 3 | .... | .... |
| Theses (on approved Military subjects)..... | 1 | 1 | 1 |
| National Government (PS 301) ..... | .... | 3 | .... |
| Seminar (CE 491, 492, 493) | 1 | 1 | 1 |
| Water Supply and Sewerage (CE 451) | 4 | .... | .... |
| Contracts and Specifications (HE 427) ..... | .... | .... | 3 |
| Reclamation Engineering (CE 461) ..... | .... | .... | 4 |
| Elementary Commercial Geography (ES 21)..... | .... | 3 | .... |
| Approved electives | 1 | 1 | .... |
| | 17 | 17 | 17 |

COURSES

The periods indicated in each course are exclusive of the time required for outside study.

INFANTRY

MS 111, 112, 113. Infantry. First Year Basic Course. An elementary course covering the fundamentals of military training; instruction in the duties of a private of Infantry. Military courtesy; discipline; guard duty; infantry drill, and equipment; small arms instruction; physical training; bayonet drill; and minor tactics.

Freshman year; three terms; 2 credits each term; 4 periods.

MS 211, 212, 213. Infantry. Second Year Basic Course. A more extensive course than first basic course of Infantry, in military fundamentals and calculated to turn out well-trained corporals of Infantry. This course covers the same subjects as taught in the first basic Infantry course, and in addition, musketry, automatic rifle, grenades, topography, and military hygiene.

Sophomore year; three terms; 2 credits each term; 4 periods.

MS 311, 312, 313. Infantry. First Year Advanced Course. This course includes practical work as drill masters, military law, military policy, machine guns, one pounder, light mortar, field engineering, rifle marksmanship, and infantry drill; training for duties of higher non-commissioned officers and junior officers.

Junior year; three terms; 3 credits each term; 5 periods.

MS 411, 412, 413. Infantry. Second Year Advanced Course. A course contemplated to round out the military course for infantrymen and turn out well-trained infantry officers. Military history; administration; minor tactics; strategy; tactical walks; pistol and rifle practice; and practical work as drill masters.

Senior year; third term; 3 credits each term; 5 periods.

FIELD ARTILLERY

MS 121, 122, 123. **Field Artillery.** First Year Basic Course. The aim of this course is to instruct the student in the duties of a cannoneer of Field Artillery. Dismounted drill; military courtesy and discipline; first aid; interior guard duty; drill of a gun squad; care and use of the pistol; gunners examination; ordnance and material; equitation.

Freshman year; three terms; 2 credits each term; 4 periods.

MS 221, 222, 223. **Field Artillery.** Second Year Basic Course. This course consists principally of the instruction given to the drivers and the technical specialists and the non-commissioned officers of Field Artillery. Military ceremonies; topography; orientation; motors and motor vehicles; reconnaissance; mounted drill and draft; sub-caliber practice; pistol practice.

Sophomore year; three terms; 2 credits each term; 4 periods.

MS 321, 322, 323. **Field Artillery.** First Year Advanced Course. The object of this course is to ground the student thoroughly in the technical duties of a junior officer of Field Artillery. The theoretical work includes computation of firing data; exterior ballistics, the laws of dispersion, meteorological data and corrections of the moment, action and effects of projectiles and fuzes, terrain board exercises, smoke bomb practice (the smoke bomb range is completely equipped and furnishes a very close approximation to actual service firing), equitation and hippology, communication and liaison, battery emplacements and camouflage, functions of the various calibers of Field Artillery.

Junior year; three terms; 3 credits each term; 5 periods.

MS 421, 422, 423. **Field Artillery.** Second Year Advanced Course. The work of this year comprises those general subjects which round out the instruction of an officer of Field Artillery. Military law; rules of land warfare; administration and army paper work; property accountability and records; military history and policy of the United States; minor tactics and map problems; field service regulations; current technical publications; mounted instruction, including polo and cross-country riding.

Senior year; three terms; 3 credits each term; 5 periods.

MOTOR TRANSPORT

MS 131,132,133. **Motor Transport.** First Year Basic Course. An elementary course in the military fundamentals. Motor transportation convoys; motor vehicle engineering; infantry drill; military courtesy and discipline; rifle marksmanship; map making and

reading theory; personal hygiene; organization; care of arms and equipment; patrolling and guard duty, training for duties of private, Motor Transport Division, Quartermaster Corps.

Freshman year; three terms; 2 credits each term; 4 periods.

MS 231, 232, 233. **Motor Transport.** Second Year Basic Course. Military courtesy; infantry drill; care of arms and equipment; rifle marksmanship; camp sanitation; guard duty; minor tactics; communications; topography; signaling; vehicle engineering and convoy preliminary driving work; training for corporal, Motor Transport Division, Quartermasters Corps.

Sophomore year; three terms; 2 credits each term; 4 periods.

MS 331, 332, 333. **Motor Transport.** First Year Advanced Course. Duties of a Motor Transport sergeant, including operations of convoys; convoy problems; military law and military policy; topography; field engineering; camp sanitation, minor tactics, and advanced motor vehicle engineering.

Junior year; three terms; 3 credits each term; 5 periods.

MS 431, 432, 433. **Motor Transport.** Second Year Advanced Course. A course of training calculated to produce competent and efficient Motor Transport lieutenants. Administration and operation; fortifications; military law; mapmaking; tactics and strategy; pistol marksmanship; advanced motor vehicle engineering; and maintenance of motor trucks.

Senior year; three terms; 3 credits each term; 5 periods.

ENGINEER CORPS

MS 141, 142, 143. **Engineers Corps.** First Year Basic Course. An elementary course calculated to produce a well-trained private of Engineers, including Infantry drill, military courtesy, discipline, personal hygiene, guard duty, rifle practice, topography, cordage and rigging, pontoon work, and simple bridges.

Freshman year; three terms; 2 credits each term; 4 periods.

MS 241, 242, 243. **Engineers Corps.** Second Year Basic Course. A course including further extension in military fundamentals and such technical education as an intelligent corporal of Engineers should possess; Infantry drill; military courtesy and discipline; military bridges and river crossings; demolitions and mine warfare; minor tactics; pistol and rifle practice; cordage and rigging; guard duty; engineer map problems.

Sophomore year; three terms; 2 credits each term; 4 periods.

MS 341, 342, 343. **Engineer Corps.** First Year Advanced Course. A course of instruction in the duties of a master sergeant of Engineers, including practical work as drill masters in engineer work and

Infantry drill; minor tactics; topography; camp sanitation; military law; pontoon and land bridges; fortifications; military railways; military road construction; engineer map problems; cordage and rigging.

Junior year; three terms; 3 credits each term; 5 periods.

MS 441, 442, 443. **Engineer Corps.** Second Year Advanced Course. A course of instruction in the field and garrison duties of a lieutenant of Engineers, including practical work as drill masters; military construction; engineer organization; castramentation; application of all branches of engineering to the art of war; wharves and docks; administration; tactics and strategy; gasoline engines; electrical equipment for military use; hippology; equitation; engineer map problems; military history and policy; topography.

Senior year; three terms; 3 credits each term; 5 periods.

CAVALRY

MS 151, 152, 153. **Cavalry.** First Year Basic Course. A course in the fundamentals of the military science and technical duties of a private of Cavalry. Military courtesy and discipline; physical training; cavalry drill; use of cavalry weapons; care and handling of arms and equipment; personal hygiene; minor tactics and guard duty.

Freshman year; three terms; 2 credits each term; 4 periods.

MS 251, 252, 253. **Cavalry.** Second Year Basic Course. A course of instruction in the duties of a corporal of Cavalry. Organization, military courtesy and discipline; care and handling of arms and equipment; cavalry drill; small arms firing; musketry; camp sanitation; guard duty; physical training; topography; signaling; development and employment of Cavalry equitation; Cavalry tactics.

Sophomore year; three terms; 2 credits each term; 4 periods.

MS 351, 352, 353. **Cavalry.** First Year Advanced Course. A course in military science and tactics calculated to produce well-trained and efficient Cavalry sergeants. Cavalry drill; cavalry tactics; care of animals; mounted pistol practice; use of cavalry weapons; field engineering; use of accompanying weapons; musketry.

Junior year; three terms; 3 credits each term; 5 periods.

MS 451, 452, 453. **Cavalry.** Second Year Advanced Course. A course of instruction for the preparation of a Cavalry lieutenant. Hippology, minor tactics, cavalry drill and equitation; use of cavalry weapons; mounted pistol practice; packing; employment of Cavalry in war; administration; military policy; military history of United States; military law; field fortifications; leadership and art of instructing.

Senior year; three terms; 3 credits each term; 5 periods.

Physical Education for Men

RICHARD BURR KUTHERFORD, A.B., Professor and Director.

GUY LESLIE RATHBUN, Assistant Professor.

RALPH COLEMAN, B.Sc., Instructor.

MICHAEL BUTLER, Instructor.

ROBERT HAGER, Instructor.

Because physical health determines capacity for efficiently carrying out the work which a student prepares for in college, Physical Education in modern educational institutions is being emphasized more and more every year.

Physical Education for Men in the Oregon Agricultural College includes the following subjects: (1) Gymnastics, Individual and Class Instruction; (2) Athletics, Intercollegiate and Intramural; (3) Physical Examinations; (4) Corrective Exercises; (5) Hygiene; (6) Physical-Training subjects not classified; (7) Teachers' Courses in Physical Education.

Individual Instruction. This is given in the form of advice based upon the health examination of the student. Health examinations are given during the freshman and sophomore years. The examinations are utilized for the purpose of finding defects whose proper treatment may add to the health efficiency of the student. Advice given at this time is recorded and when a student reports for conference the advice on file is followed up. Students found with remediable physical defects are given special corrective work.

Physical Training. Students may devote themselves to any one of the three following phases of physical training: intercollegiate athletics, intramural athletics, and gymnasium.

Intercollegiate Athletics. All intercollegiate athletics is under the jurisdiction of the Board of Control, composed of three members of the faculty, five members of the student body, and one alumnus. Representative teams are organized for baseball, basket-ball, cross-country running, football, soccer, tennis, track, and wrestling. Participation during the whole season of sport is accepted for one term credit in Physical Education.

Intramural Athletics. The work in intramural athletics is supervised by a council consisting of the Director of Physical Education, Colonel of the Cadet Regiments, President of the Student Body, Editor of the O. A. C. Barometer, Professor of Intercollegiate Athletics, and a representative elected by each of the following groups: Fraternities, Clubs, and Independents.

The department has organized the work in intramural athletics so that every student who is physically fit to take part in athletic contests has the opportunity to participate in scheduled competitive sports. "Every O. A. C. man an athlete" is the slogan of the College.

For credit, attendance of two hours each week is required of all freshmen and sophomores who elect this work. The activities include: **fall sports** (football, soccer, cross-country running, field events, swimming, tennis, indoor baseball); **winter sports** (basket-ball, track and field events, wrestling, boxing, hand ball, volley ball, swimming, and advanced gymnastics); **spring sports** (baseball, track and field events, tennis, swimming, and cross-country running).

Gymnasium Classes. Individual and class instruction. Students who are unsuited (determined by examination and tests) or who do not desire to work in intercollegiate or intramural athletics are assigned to gymnasium classes, in which the students are given work for correcting defects, and for developing physical efficiency and muscular power.

Attendance of two hours each week is required of all freshmen and sophomores carrying gymnasium work.

Teachers' Courses in Physical Education. The Oregon law requiring physical education in all public schools went into effect September 1, 1919. This law has created a demand for training in physical education on the part of teachers in both elementary and high schools. Many teachers of the vocations are able to render competent service in giving instruction in physical education in addition to their regular work. Community leaders everywhere require training for leadership in recreation and physical education. Students of the College who plan to teach after graduation will find distinct professional advantage in the training included, not only in the required Physical Education work, but also in many of the elective courses.

Summary of Oregon Physical Education Law. The new law requiring physical education in the public schools of Oregon provides for a minimum of one hundred minutes a week, or an average of twenty minutes daily, for physical training activities in elementary schools. The State Superintendent of Public Instruction has published a special syllabus prepared by a committee of experts, giving the requirements of the law. The law requires the work to consist of activities promoting physical vigor, physical posture, bearing and mental and physical alertness, self control, disciplined initiative, sense of patriotic duty, and spirit of cooperation under leadership.

Equipment. The third and fourth units of the Men's Gymnasium are now completed, thereby doubling the size of the building. The

west unit provides boxing and wrestling rooms, bowling alleys, and handball and squash courts. The south unit contains the natatorium, one of the finest on the Coast, with a white-tile pool one hundred by fifty feet in size and with a surrounding gallery capable of seating 1,500 spectators. Modern diving boards, electric lights for the bottom of the pool, and refiltration and ultra-violet ray process for keeping the water sterile, are part of the equipment. The east wing has an auxiliary gymnasium for apparatus work, three handball courts, two wrestling rooms, and one large room for volley ball. The main, central unit contains locker and shower rooms, lobby and offices, and the great gymnasium hall with a floor ninety by one hundred fifty feet in dimensions, with three regulation basket-ball courts. The equipment includes all modern gymnasium apparatus and facilities for physical education and recreation.

The Athletic Field. The Oregon Agricultural College field for athletics comprises a new quarter-mile track; varsity football field, with a new steel-covered grandstand seating five thousand people and covered bleachers bringing the total seating capacity up to thirteen thousand; six practice football fields; and soccer and baseball fields for intramural athletics.

Eight tennis courts have been constructed which afford facilities for tennis.

The Armory, one of the largest of its kind in the United States, provides fine facilities for winter training during inclement weather in football, track, baseball, and various other sports. An indoor clay track, banked at the turns, which is but eight laps to the mile, and the extension clay floor space and high dome roof furnish facilities for conducting large winter track and field meets.

Fee. The official receipt for the gymnasium fee of \$1.75 a term entitles the holder to full privileges of the department, including: health examination, strength tests, locker, use of shower rooms, towels and soap, athletic fields, gymnasiums, etc.

COURSES

PEm 111, 112, 113. **Physical Training.**

Required in all degree curricula; freshman year; three terms; $\frac{1}{2}$ credit each term; 2 periods.

PEm 121, 122, 123. **Hygiene.** These courses consist of a series of lectures on personal and impersonal hygiene, sources and modes of infectious diseases, immunity, industrial and occupational diseases, and the like. One term required of all freshman and first year vocational students. No credit toward graduation is given for these courses.

PEm 141. Red Cross Certificate in First Aid to the Injured (for Men).

Elective; first term; 1 credit; 1 lecture.

PEm 211, 212, 213. Physical Training.

Required in all degree curricula; sophomore year; three terms; $\frac{1}{2}$ credit each term; 2 periods.

PEm 231. Elementary and Advanced Gymnastics. Theory and practice of gymnastics.

Elective; second or third term; 1 credit; 2 periods.

PEm 232, 233. Methods of Coaching Athletic Teams. Football, basket-ball, track, baseball, wrestling, swimming, and soccer.

Sophomore year; second and third terms; 2 credits each term; 2 lectures.

PEm 241. Physical Department Methods and Physical Diagnosis. Physical examinations; detection of abnormal health conditions.

Prerequisite: PEm 111, 112, 113, 123. Elective; sophomore year; first or second term; 2 credits; 2 lectures.

PEm 244. Kinesiology. Essentials of anatomy as related to physical education; muscles and their action; analysis of the movements of the body and their mechanisms as a working basis for the selection of gymnastic exercises; lectures and demonstrations on skeleton and human body.

Prerequisite: A course in Anatomy. Sophomore year; second term; 2 credits; 2 lectures.

PEm 274. Community Recreation. A course designed to prepare for leadership in recreational activities.

Elective; third term; 2 credits; 2 periods.

PEm 311, 312, 313. Physical Training.

Elective in degree curricula; junior year; three terms; $\frac{1}{2}$ credit each term; 2 periods.

PEm 341. Physio-therapy. Elements of corrective exercises; methods and exercises used for corrective and therapeutic purposes. Types of variations from the normal, and the effect of corrective exercises.

Elective; second term; 2 credits; 2 periods.

PEm 361. Practice Teaching. Students work under supervision as assistants in various courses. Conferences are held by the instructors in charge, and students submit reports.

Elective; junior year; any term; 2 credits; 3 periods.

PEm 411, 412, 413. Physical Training.

Elective in degree curricula; senior year; 3 terms; 1 or 2 periods.

VOCATIONAL COURSES

(Credits in vocational courses are non-collegiate.)

PEm 11, 12, 13. Practical Gymnastics.

Required of men in vocational curricula; first year; 3 terms; $\frac{1}{2}$ credit each term.

PEm 21, 22, 23. Practical Gymnastics.

Prerequisites: PEm 11, 12, 13, or equivalent. Required of men in vocational curricula; second year; 3 terms; $\frac{1}{2}$ credit each term.

Physical Education for Women

EDNA AGNES COCKS, A.M., Professor and Director.

ETTA GABLE LUNT, Secretary.

DORIS MABEL THORNELY, Assistant Professor.

GLADYS CORYELL, A.B., Instructor.

RUTH HJERTAAS, Instructor.

LOIS JOHNSON RANKIN, A.B., Instructor.

RUTH WININGER, A.B., Instructor

The aim of this department is to bring each student to her best possible physical condition, and by careful training to correct faulty posture, to aid in the formation of habits of hygienic living, to establish a normal condition in the circulatory and respiratory systems, to secure bodily vigor, and to attain a healthy and symmetrical development.

Special Corrective and Medical Gymnastics. Students who are shown by physical examination to be unfit for the work of the regular classes in gymnastics and sports, are assigned to corrective classes where the work is light and emphasis is laid on correct breathing and posture, relaxation, and rest; or, whenever necessary, students are given private work in medical gymnastics according to individual needs. The physical condition of each student is carefully diagnosed and supervised. The instructors encourage conferences concerning matters of health and personal hygiene and cooperate with the resident physician in all cases.

Courses for Students Preparing to Teach. Many teachers of Home Economics, Agriculture, Manual Training, and Commerce in elementary and high schools are expected also to give instruction in Physical Education, and all teachers who are trained in this field are able to render valuable service in the schools and communities where they work. A brief summary of the Oregon law requiring physical education in all public schools of the State is given on page 382. Prospective teachers of the vocations, extension workers, and community leaders will find the required and elective courses in Physical Education valuable as part of their professional equipment.

Requirements. Work in Physical Education is required of all freshmen and sophomores four periods a week, and of all juniors and seniors two periods a week, unless deferment has been granted by the director or unless excuse is granted for physical reasons.

Examinations. All students are required to take a medical examination by the College Physician, and a physical examination by the Director of Physical Education for Women.

Uniforms. The gymnasium uniform consists of an all-black suit, black hose, and black gymnasium shoes. The shoes can be purchased in Corvallis, but the suits must be ordered at the gymnasium office at the time of registration. The uniforms for out-of-doors consist of a short, full, white wash skirt, white middie, and sport shoes or tennis shoes. Ballet shoes are used in the aesthetic dancing classes.

Fee. A gymnasium fee of \$1.50 a term is charged for use of showers, lockers, towels, medical supplies for injuries, etc. Those registered in swimming pay \$0.50 extra.

Equipment. The Women's Gymnasium has floor space for regular gymnasium work, a balcony running-track and playing space for basket-ball and other games. On the main floor are found horizontal bars, vaulting horses and bucks, parallel bars, swinging rings, traveling rings, Swedish box, stall bars, climbing ropes, ladders, dumb bells, Indian clubs, and wands. There are lockers and dressing rooms for all needs, and shower-bath rooms where hot and cold water is available throughout the year. The women's athletic field provides for such games as basket-ball, field hockey, soccer, tennis, baseball, and crossball. The swimming pool in Shepard Hall is under the direction of the department of Physical Education for Women and is supervised by an instructor.

COURSES

PEw 111, 112, 113. **Practical Gymnastics.** Swedish gymnastics, combining floor and apparatus work with training in correct posture and breathing. Required of all freshmen in degree curricula; the other two required periods may be selected from elective courses.

Required of all women in degree curricula; freshman year; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Ruth Hjertaas, Lois Rankin, Ruth Wininger, Gladys Coryell

PEw 114, 115, 116. **Corrective Gymnastics.** Gymnastic work adapted to the needs of women not suited to the regular gymnasium work.

Required of women in degree curricula not taking PEw 111, 112, 113; freshman year; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Edna A. Cocks, Doris Thornely, Gladys Coryell

PEw 121. **Social Ethics.** This course is designed to help as a transition between the social life of the home and high school and that of the college. It consists of a series of lectures during the fall

term, together with a limited amount of reading. The lectures fall under four heads: college etiquette; the meaning of social ethics; the place of religion in the student's life; and the history of customs which affect women in their social life, such as, courtship, marriage, divorced, family responsibility, etc.

Required of all women in degree curricula (freshman year), all women in vocational curricula, and all optional and special women students; first term; 1 credit; 2 periods.

Mary A. Rolfe

PEw 122. **Hygiene.** Lectures covering personal and general hygiene, including care of the skin, hair, teeth, nails; care of the special senses, as eye, ear, nose, and throat; study of rest, exercise, and recreation.

Required of women in degree curricula (freshman year), all women in vocational curricula, and all optional and special women students; second term; 1 credit; 1 period.

Edna A. Cocks

PEw 123. **Sanitary Science.** Public and private sanitation as related to infections, diseases, care of foods, water supply, and sewage; care of public and private buildings; general health supervision.

Required of all women in degree curricula (freshman year), all women in vocational curricula (first year), and all optional and special women students, excepting those in Home Economics; third term; 1 credit; 1 period.

Edna A. Cocks

PEw 131, 132, 133. **Dancing.** (a) Elementary Aesthetic Dancing. Aesthetic technique and practice of rhythmic movements; simple aesthetic dances, based on both the Chalif and Russian methods. (b) Elementary Folk Dancing. The simple national folk dances of all nations.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Ruth Hjertaas

PEw 134, 135, 136. **Gymnastic Dancing.** Steps progressing from the simple to complex movements.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Ruth Hjertaas

PEw 137, 138, 139. **Apparatus Work.** This course consists of work with both light and heavy apparatus, such as rings, ladders, stall bars, vaulting box, and mats.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Ruth Hjertaas

PEw 141, 142, 143. **Elementary Outdoor Sports** (a) Tennis. (b) Hockey. (c) Basket-ball. (d) Baseball. (e) Soccer. (f) Cricket. (g) Track Athletics. The work includes various sports to

give recreation and to form a basis for the habit of open-air work.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Gladys Coryell, Lois Rankin, Ruth Wininger

PEw 151, 152, 153. **Elementary Swimming.** A course in which the students are helped to overcome timidity of being in the water and are taught the ordinary back stroke, side stroke, and simple diving.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Gladys Coryell, Lois Rankin

PEw 211, 212, 213. **Practical Gymnastics.** A continuation of PEw 111, 112, 113. These courses are required; the other two required hours may be selected from the elective courses.

Required of all women in degree curricula; sophomore year; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Gladys Coryell, Ruth Hjertaas, Lois Rankin, Ruth Wininger

PEw 214, 215, 216. **Corrective Gymnastics.** A continuation of PEw 114, 115, 116.

Required of women in degree curricula not taking PEw 211, 212, 213; sophomore year; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Edna A. Cocks, Doris Thornely, Gladys Coryell

PEw 231, 232, 233. **Dancing.** (a) Intermediate Aesthetic Dancing. (b) Intermediate Folk Dancing. A continuation of courses PEw 131, 132, 133.

Elective; three terms; 1 credit each term; 2 periods.

Ruth Hjertaas

PEw 237. **Hand Apparatus.** Work with Indian clubs, dumb bells, wands, balls, and reeds.

Elective; first term; $\frac{1}{2}$ credit; 2 periods.

Lois Rankin

PEw 238. **Fencing.** Includes individual and class instruction in foil and saber fencing; methods of single and double rank formations; salutes and fencing bouts.

Elective; second term; $\frac{1}{2}$ credit; 2 periods.

Lois Rankin

PEw 239. **Archery.** A course in the principles and fundamentals of archery.

Elective; third term; $\frac{1}{2}$ credit; 2 periods.

Lois Rankin

PEw 241, 242, 243. **Advanced Outdoor Sports.** (a) Tennis. (b) Hockey. (c) Basket-ball. (d) Baseball. (e) Soccer. (f) Cricket. (g) Track Athletics. A continuation of courses PEw 141, 142, 143.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Gladys Coryell, Lois Rankin, Ruth Wininger

PEw 245. **First Aid to the Injured.** This course covers emergency treatment of wounds, shocks, fainting, hemorrhage, burns, sunstroke, sprains, fractures, and poisons; the use of bandages; care of the wounded.

Elective; third term; 2 credits; 2 periods.

PEw 251, 252, 253. **Advanced Swimming.** A continuation of PEw 151, 152, 153, adding more intricate strokes, fancy diving, ornamental swimming, and life-saving.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Gladys Coryell, Lois Rankin, Ruth Wininger

PEw 311, 312, 313. **Advanced Gymnastics.** A more advanced course in general gymnastics for students who have completed courses PEw 111, 112, 113 and PEw 211, 212, 213.

Three terms; $\frac{1}{2}$ credit each term; 2 periods. *Ruth Hjertaas*

PEw 331, 332, 333. **Dancing.** (a) Advanced Aesthetic Dancing. (b) Advanced Folk Dancing. A continuation of courses PEw 131, 132, 133, and 231, 232, 233.

Elective; three terms; $\frac{1}{2}$ credit each term; 2 periods.

Ruth Hjertaas

PEw 344, 345. **Kinesiology.** A study of the anatomy of the motor organs with special reference to joint and muscular mechanism; the relation of various sets of movements to muscular development.

Prerequisite: Anatomy and Physiology. Elective; first and second terms; 3 credits each term; 3 periods.

Doris Thornely

PEw 346. **Physiology of Exercise.** A study of the effect of exercise on health, considering heat, fatigue, exhaustion, overwork, breathlessness, and amount of training.

Elective; third term; 3 credits; 3 periods. *Edna A. Cocks*

PEw 375. **Playground and Gymnastic Games.** A study and analysis of games for the playground and gymnasium; lectures on the theory of games; reference reading and reports; practical working of games.

Elective; second term; 3 credits; 3 periods. *Ruth Wininger*

PEw 376. **Theory and Coaching of Athletic Sports.** This course covers the theory and coaching of all organized sports and track athletics, including lectures, reference reading, and the handling of squads and teams.

Elective; third term; 3 credits; 3 periods. *Ruth Wininger*

PEw 423. **Advanced Hygiene and Sanitary Science.** This course takes up the vital points in hygiene and sanitation and includes the theory of teaching the subject in the elementary and the high schools.

Elective; third term; 2 credits; 2 periods. *Edna A. Cocks*

PEw 431. History of Physical Education. A course covering the origin and development of physical education including leading educators.

Elective; first term; 3 credits; 3 periods. *Edna A. Cocks*

PEw 441. Massage. Theory and practice of body massage, including treatment for conditions arising from athletic strain.

Prerequisites: Anatomy and Kinesiology. Elective; first term; 3 credits; 2 lectures; 3 laboratory periods. *Doris Thornely*

PEw 442. Therapeutic Gymnastics. Corrective gymnastics as applied to abnormal health conditions; prescription of exercises; medical gymnastics.

Prerequisites: Anatomy and Kinesiology. Elective; second term; 3 credits; 2 lectures; 3 laboratory periods. *Doris Thornely*

PEw 443. Physical Diagnosis and Anthropometry. Theory and practice in detecting normal and abnormal physical signs; history; laws of human proportion; measurements; practice in taking and recording measurements; practice in school clinic.

Prerequisites: Anatomy and Kinesiology. Elective; third term; 3 credits; 2 lectures; 3 laboratory periods. *Doris Thornely*

PEw 451, 452, 453. Physical Education Seminar. An advanced course for students taking special work in physical education. Discussions of vital problems in physical education; reviews and reports of books and magazine articles. Each student is required to write a term thesis.

Elective; three terms; 1 credit each term; 1 period.

Edna A. Cocks

PEw 461, 462, 463. Principles and Theory of Physical Education. This course takes up the organization, leadership, and administration of physical training; preparation for teaching Physical Education; the theory of handling classes; reference reading.

Elective; three terms; 3 credits each term; 3 periods.

Edna A. Cocks

PEw 464, 465, 466. Practice Teaching. The course consists in the actual handling of classes, using the fundamentals and methods of the course in Principles and Theory of Physical Education (PEw 461, 462, 463) with lesson plans. These courses must be taken together.

Elective; three terms; 1 credit each term; 4 periods.

Edna A. Cocks

PEw 471. Theory of Play. A study of the nature of the child; the nature and function of play; the value of play; aims and spirit in the conduct of play.

Elective; first term; 3 credits; 3 periods.

Edna A. Cocks

PEw 472. Organization and Administration of Physical Education and Recreation. Development, organization, and management of Physical Education; the playground movement; construction and equipment; use of apparatus; government and discipline.

Elective; second term; 3 credits; 3 periods.

Edna A. Cocks

VOCATIONAL COURSES

(Credits in vocational courses are non-collegiate.)

PEw 11, 12, 13. Practical Gymnastics. Swedish gymnastics; floor and apparatus work; breathing and posture training.

Required of women in vocational curricula; first year; three terms; $\frac{1}{2}$ credit each term; 2 hours a week. The other two hours a week required the student may select from elective courses.

Gladys Coryell, Lois Rankin, Ruth Hjertaas, Ruth Wininger

PEw 21, 22, 23. Practical Gymnastics. Continuation of the work of PEw 11, 12, 13.

Required of women in vocational curricula; second year; three terms; $\frac{1}{2}$ credit each term. The other two hours a week required the student may select from elective courses.

Gladys Coryell, Lois Rankin, Ruth Hjertaas, Ruth Wininger

School of Music

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.

WILLIAM FREDERIC GASKINS, Mus.B., Director of the School of Music;
Professor of Music.

Graduate student Hillsdale College Conservatory; graduate student American Conservatory; graduate student of Karlton Hackett, Chicago; J. D. Mehan, New York; F. X. Arens, New York; Percy Rector Stephens, New York.

STEWART WENDELL TULLEY, Voice Culture and Singing. Personal Assistant to Director Gaskins.

Student of William Frederic Gaskins, Percy Rector Stephens.

GENEVIEVE BAUM-GASKINS, Instructor in Organ, Pianoforte, and Voice. Leschetizky Method. The Dunning System for Beginners. Graduate of American Conservatory, Chicago; student of William Nelson Burritt, New York; Karlton Hackett, Chicago; John Dennis Mehan, New York; John J. Hattstaedt, Chicago; and Wilhelm Middle-schulte, Chicago.

LENA ROWENHORST, Pianoforte; the Dunning System. Personal Assistant to Genevieve Baum-Gaskins.

Student of Percy Rector Stephens, Carre Louise Dunning in the Dunning System.

GUSTAV DUNKELBERGER, Mus.B., Instructor in Pianoforte and Theory of Music.

Graduate of Bethel College Conservatory; graduate student American Conservatory, Chicago, and Institute of Musical Art, New York; pianoforte pupil of Heniot Levy, and Richard Guhlig—a pupil of Leschetizky; ensemble under Adolf Weidig, Chicago; theory pupil of Arthur Olaf Andersen—a pupil of d'Indy and Sgambati; theory pupil of Dr. Percy Goetschius, and Louis Victor Saar—a pupil of Rheinberger and Brahms.

RUTH RONDEAU, Assistant Instructor in Pianoforte.

Graduate Oregon Agricultural College School of Music; personal graduate student of Carre Louise Dunning in the Dunning System; graduate student of Calvin Cady, Columbia University; graduate student of Lhevinne, American Conservatory, Chicago. Specialist in the Progressive Series.

CARL GRISSIN, Instructor in String Instruments and Orchestration. Student of Edmund Singer, Stuttgart; Gustav Hollaender, Berlin; Carl Halir, Berlin; Samuel de Lange, Berlin; Joseph Mayer, Berlin.

FLORENCE BOWDEN, Instructor in Violoncello, Mandolin, Banjo.

Pupil of Frederic Konrad, Leo Schultz, August Andersen, mandolin, guitar, etc.; Guillaume LeBlanc, Jose Martinez, Carlos Rebagliati.

HARRY LINDEN BEARD, B.Sc., Instructor in Band Instruments and Band Conducting.

Student of Herbert L. Clark, of Sousa's Band; Frank X. Heric, of New York; Herman Trutner, U. S. Army; Glen Wood, Oakland, Cal.; Paul Steindorff, San Francisco; Adolph Rosenbecker, and Daniel Protheroe, Chicago; A. F. Welden, Chicago.

NELLIE HOONE-WETMORE, Assistant Instructor in Band Instruments.

Student of Herbert L. Clark, soloist of Sousa's Band, Boston; J. B. Claus, Boston; Herman Bellstedt, Cincinnati; soloists in Columbia records.

GENERAL STATEMENT

Recognizing the value of musical education and experience to the college community, the Board of Regents in 1908 authorized the organization and establishment of the School of Music under the present direction, and made provision for ample room, instruments, and other necessary facilities for instruction of the highest standard.

Individual and class instruction involve the payment by students of tuition in accordance with an authorized schedule. The School of Music is thus a self-supporting department of the Oregon Agricultural College.

Members of the faculty of the School of Music give gratuitous instruction to certain student musical organizations of the College. In this manner and through other College functions, the School of Music contributes in a large way to the educational, artistic, and social life of the institution.

MUSICAL ORGANIZATIONS AND CONCERTS

The musical organizations of the College include two College bands; the Oregon Agricultural College Orchestra; the Glee Club, composed of men students; the Madrigal Club, a choral society composed of women students; and the Mandolin and Guitar Club. The instruction in these organizations is given by the faculty of the School of Music.

The Orchestra. Students of string instruments in attendance at the College, who are sufficiently advanced are admitted to membership in the College Orchestra by the Conductor on terms approved by the Director. Every reasonable encouragement is given to the development and maintenance of a good orchestra under competent, progressive leadership. Students are invited to investigate these opportunities for excellent training in orchestra routine and solo playing. Such experience and drill are of great educational and cultural value.

The Orchestra library consists of works by the following composers: Dvorak, Brahms, Tschaikowsky, Grieg, Gounod, Verdi, Mendelssohn, Beethoven, Elgar, Wagner, Offenbach, Strauss, and others.

Sonatas for violin and piano; string trios, quartettes for two violins, viola, and 'cello, and for four violins are available for study. All students in string instruments must perform from memory in public when requested by the instructor and approved by the Director. Membership in the ensemble classes is free, and instruction is given by the principal violin instructor.

The College Band. Instruction in the use of brass, wood-wind, and percussion instruments is given by the regular College band leader. To become a member of the College Band, a student must

pass a satisfactory examination in the elements of music and ability to perform on his instrument. Members are required to attend daily rehearsals, and a reasonable amount of individual practice is expected. Each member must furnish his own instrument and music stand, except basses, baritones, altos, and drums, which are furnished by the College. Any student desiring to enter the band should see that his instrument is in low pitch.

Concerts. In addition to the public recitals of the students of the School of Music which are given periodically throughout the college year the annual concerts of the various student musical clubs are attractive events in the student calendar. The Glee and Madrigal concerts are artistic presentations of the first magnitude. The Orchestra and Band concerts are occasions that bring out the largest and most enthusiastic audiences of the year. Every two years the Glee and Madrigal clubs, assisted by the College Orchestra, produce a classic light opera. The *Mikado*, *The Bohemian Girl*, *The Lass of Limerick Town*, and the *Pirates of Penzance* were charming examples of amateur performance.

Coupled with such services to the college community as these is the effort of the Director of the School of Music to bring to the College some of the celebrated musical artists of the country, whose concerts have been events of real moment in the aesthetic life of the college community.

COURSES

Work is offered in the following subjects: elements of music; history of music; interpretation; languages; music form and analysis; music pedagogics; song, oratorio, opera, and choral singing; organ playing, organ structure; piano playing, piano structure; sight reading; stage deportment; string instrument, wind instrument, and brass instrument playing; theory; harmony; counterpoint; composition; voice culture.

SUPPLEMENTARY HARMONY AND THEORY

Mus 101. Harmony. Consideration of the theories of acoustics, the formation of the diatonic scale, intervals, chord construction, the relative importance of triads within one key, connection of primary triads, rhythm, the elements of melodic construction, and part writing; harmonization of melodies and unfigured basses; original phrases and periods. Aural recognition of intervals demonstrated orally and in writing. Simple melodic dictation in both modes.

Required in all major courses in music; elective to others; freshman year; three terms; 2 recitations.

Mus 102. **Harmony.** Key relations; chord of the seventh; direct and extraneous modulation; altered and mixed chords. Ear-training exercises containing the more difficult diatonic and chromatic skips and difficult rhythms.

Prerequisite: Mus 101. Sophomore year; three terms; 2 recitations.

Mus 103. **Harmony.** Modulations; inharmonic tones; study of the various modern harmonic theories; original exercises. Harmonic dictation including primary and secondary triads, dominant discords and their inversions.

Prerequisite: Mus 102. Junior year; 3 terms; 2 recitations.

Mus 104. **Elementary Counterpoint.** Simple counterpoint in the five orders applied in original exercises and the small invention for two, three, and more parts.

Prerequisite: Mus 101 or equivalent. Sophomore or junior year; three terms; 2 recitations.

Mus 105. **Analysis.** Detailed harmonic and formal analysis of representative works of the masters and other compositions; development of analytic memory.

Prerequisite: Mus 103 or equivalent. Parallel with Mus 106. Senior year; three terms; 2 recitations.

Mus 106. **Composition.** The application of harmonic material in original exercises in the homophonic forms, from the simple phrase to the song form with trio.

Prerequisite: Mus 103 or equivalent. Senior year; three terms; 2 recitations.

Mus 107. **Orchestration.** The arrangement of music for orchestra; theoretical study of orchestral instruments and their functions.

Prerequisite: Mus 103. Senior year; first term; 2 recitations.

Mus 108. **History of Music.** Lectures on the evolution of musical thought, appreciation, and scholarship, presenting essential chronological data, with reference to the dominant characters of musical activity.

Three terms; 2 hours a week, in class.

Mus 109. **Pedagogy.** A pianoforte course, presenting systematically arranged material, and recommending approved methods of instruction for beginners or advanced students. Open to sophomores, juniors, seniors, or accomplished special students. Private instruction.

Elective; three terms; 1 hour.

MAJOR THEORY

Mus 151. Theory. A major course in theory. Altered chords, chromatic progression of chords, and enharmonic transformation of discords as used in modulatory processes; inharmonic tones; wandering harmonies; modern harmonic theories; vocal and instrumental harmony with an irregular number of parts; style. Counterpoint applied in the invention for two, three, and more parts; contrapuntal choral elaborations. Original work; harmonic dictation.

Prerequisites: Mus 102 and 301, or equivalents. Freshman year; 3 terms; 2 hours.

Mus 152. Theory. Composition in the simple homophonic forms; analysis. Harmonic dictation using altered and mixed chords.

Prerequisite: Mus 151. Mus 107 and 108 are required parallels. Sophomore year; three terms; 2 hours.

Mus 153. Theory. Advanced counterpoint applied in the various species of fugue, single and double, and the canon. Analysis.

Prerequisite: Mus 152. Junior year; 3 terms; 1 hour.

Mus 154. Theory. The larger forms of composition, including the variation, rondo forms, the sonatina, and sonata-allegro forms. Analysis. For graduation each student is required to compose an original instrumental or vocal composition in one of the larger forms.

Prerequisite: Mus 153. Senior year; three terms; 1 hour.

VOICE

Mus 201. Voice Culture and Singing. Exercises for correct breath control; freedom of action of vocal mechanism; purity of tone; blending of registers; correct pronunciation; distinct enunciation of vowels, consonants, and other elements of speech; suitable vocalises; appropriate songs; public singing subject to the discretion of the Director.

Parallel courses: Mus 101, 108; Physical Education. Freshman year; three terms; 2 private lessons a week; 1 to 2 hours daily practice.

Mus 202. Voice Culture and Singing. Exercises for tone placing and beauty of quality, phrasing, style. Physiology of the vocal mechanism, with stress on conservation of voice. Appropriate songs of moderate difficulty. Public singing subject to the discretion of the Director. First year Italian, French, or other modern language.

Prerequisite: Mus 201 or equivalent. Parallel course, Mus 102. Sophomore year; three terms; 2 private lessons a week; 1 to 2 hours daily practice.

Mus 203. Voice Culture and Singing. Advanced technical development and interpretative skill, by means of difficult songs, vocalises, and ensemble singing, in English, and modern languages. Second year modern language as in Mus 203, continued three terms. Performance on public programs of the School of Music as required by the Director. Required: Two private lessons a week; practice daily.

Prerequisite: Mus 202 or equivalent. Parallel courses, Mus 103, 104. Junior year; 3 terms; 1 to 2 hours.

Mus 204. Voice Culture and Singing. Advanced study of vocal technique by means of masterpieces. Public singing as required under the rules and regulations of the School of Music. For graduation a public recital is required under conditions specified by the Director. Required: Two private lessons a week.

Prerequisite: Mus 203 or equivalent. Parallel courses, Mus 105, 106, 107. Senior year; three terms; 1 to 3 hours daily practice.

PIANO

Mus 301. Piano. Scales and arpeggios; exercises for speed and rhythm; etudes from Czerny, Cramer, Moszkowski, and others; easy sonatas of Haydn, Mozart, and Beethoven; easy compositions of Mendelssohn, Schubert, Schumann, Grieg, and others.

Prerequisite: Mus 300 or equivalent. Mus 101, 108, and Physical Education are required parallel courses. Freshman year; three terms; 2 private lessons a week; 2 to 4 hours daily practice.

Mus 302. Piano. Scales in various forms and technical exercises adapted to the particular needs of the student; etudes of Czerny, Cramer, Ruthardt, and others; suites and inventions of Bach; Mozart, Beethoven, and Weber sonatas of moderate difficulty; more difficult compositions by Mendelssohn, Schumann, Chopin, Liszt, and others; easy transposition, sight reading, and memory training.

Prerequisite: Mus 301 or equivalent. Mus 102, a modern language, and Physical Education are required parallel courses. Sophomore year; three terms; 2 private lessons a week; 3 to 5 hours daily practice.

Mus 303. Piano. Exercises based on technical difficulties in compositions studied in this course; a limited number of etudes by Rubinstein, Henselt, Haberbier, and others; well-tempered clavi-chord; the more difficult sonatas of Beethoven and solos by Mendelssohn, Chopin, Schumann, Grieg, Liszt, Brahms, and others; concertos by Mozart, Mendelssohn, Beethoven, and Moscheles.

Prerequisite: Mus 302 or equivalent. Mus 103, 104, a modern language, and Physical Education are required parallel courses. Junior year; three terms; 2 private lessons a week; 3 to 5 hours daily practice.

Mus 304. Piano. Scales and exercises in double notes. Inclusive study of the principal classic and romantic composers; etudes by Chopin and Moszkowski; solo works of modern composers; concertos by Schumann, Chopin, Rubinstein, and others. Public performances under conditions approved by the Director. For graduation, students are required to perform publicly under the direction of the School of Music, playing a program not less than an hour in length, arranged by the instructor and approved by the Director.

Prerequisite: Mus 303 or equivalent. Mus 105, 106, and 107 are required parallel courses. Senior year; three terms; 2 private lessons a week; 3 to 5 hours daily practice.

THE DUNNING SYSTEM

Mus 305. Piano. Elective. A course in music study for beginners, whether adults or children. An attractive, original, and effective method of learning the facts of music, and playing the pianoforte. The powers of analysis, memory, and expression are materially strengthened; technical facility is gained in harmony with the best principles of pianoforte pedagogy; and musical taste and discrimination are substantially developed. A qualified, authorized, and experienced instructor is in direct charge of this department. Classes limited to six in number.

Three terms; 2 hours a week.

THE PROGRESSIVES SERIES

Mus 306. Piano. Elective. Normal Courses in Pianoforte Instruction. Grades: Elementary, Intermediate, Advanced, and Graduate. These courses promote the standardization of pianoforte teaching, and furnish the solution of many technical difficulties by means of authentic outlines applicable to daily instruction and practice. The Art Publication Company's Progressive Series constitutes a finely annotated and correlated text containing all essential subjects embraced in the theory of music and pianoforte technic. These courses lead to recognition by certificates and free scholarships. By payment of the designated fees, all materials required for each course are furnished the student, inclusive of the necessary instruction. A qualified, authorized exponent of The Progressive Series is in charge of the instruction in these courses, registration for which is in the same manner as for all other music courses.

VIOLIN

Mus 401. Violin. Exercises for correct fingering, free bowing, accuracy as to pitch, rhythm, and intonation. Studies: Sevcik, Greenberg, Hohman, Kayser, Joachim, Moser, Singer, Seifriz, Laoreux. Elementary solos, sight reading duos by Mazas, or Dancla.

Parallel courses, Mus 101, 108. Three terms; 2 private lessons a week; 2 to 4 hours daily practice.

Mus 402. **Violin.** Studies by Kayser, Wohlfahrt, Schradieck, Mazas, Dont, Kreutzer, scales by Musin or Schradieck, solos, sonatas, ensemble playing at discretion of instructor.

Prerequisite: Mus 401. Parallel courses, Mus 102; ML 111, 112, 113; or ML 121, 122, 123; or ML 131, 132, 133. Three terms; 2 private lessons a week; 3 to 5 hours daily practice.

Mus 403. **Violin.** Advanced studies and compositions by Dancla, Fiorillo, Singer, Rode, Paganini, Dvorak, Brahms, Vieuxtemps, De Beriot, Viotti, and others, at the discretion of the instructor. Ensemble playing. Chamber music.

Prerequisite: Mus 402. Parallel courses, Mus 103, 104; ML 211, 212, 213; or ML 221, 222, 223; or ML 231, 232, 233. Three terms; 2 private lessons a week; 3 to 5 hours daily practice.

Mus 404. **Violin.** Advanced studies, solos, ensemble, and chamber music, as approved by the instructor.

Prerequisite: Mus 403. Parallel courses: Mus 105, 106, 107. Two private lessons a week; 4 to 5 hours daily practice. As a qualification for graduation, the student is required to present an authorized public performance of memorized compositions, in a program lasting not less than an hour, arranged by the instructor and approved by the Director.

BAND INSTRUMENTS

The work in theory required to complete these courses is that outlined in Mus 101 to 108 inclusive. Two private lessons a week required for twelve terms.

Mus 22. **Cornet.** Methods by Arban; characteristic studies by St. Jacome.

Mus 23. **Clarinet.** Methods by Dieppo; studies by Dieppo and Blume.

Mus 24. **French Horn.** Methods by Franz; studies by Franz and Hayffman.

Mus 25. **Band Instruments.** In all other band instruments, including the oboe, bassoon, saxophone, alto, and bass clarinets, drummer's traps, xylophone, and orchestra bells, the courses are similar to those given above.

DIPLOMAS

To each student satisfactorily completing the major courses in Harmony, Theory, Voice Culture and Singing, Pianoforte, Organ, Violin, or Band Instruments, a diploma is issued under the seal of

the Oregon Agricultural College, and awarded at the regular annual graduation exercises.

REGULATIONS

Any student in the Oregon Agricultural College with a satisfactory record in scholarship in his major courses may elect at least one hour a day in music, by arrangement with the Director of the School of Music. The authority to register and assign all applicants for music instruction is vested solely in the Director, who must first be consulted for the arrangement of details of registration, or at any time when information is required that pertains to study in the various departments of the School.

Students in the School of Music may enter classes in other departments of the College; and they are encouraged to take at least one course throughout the college year in addition to their regular music work. Students may enter at any time, but it is advantageous to register at the opening of a term.

Applicants may take complete or part courses. Those registering for the former are classified as "regular music," while the others are classified as "special music." "Special music" students have the option of selecting such music studies as they desire by registering for them with the Director in the regular manner and at the catalogue rate of tuition.

Young women whose homes are not in Corvallis are expected to live in the dormitories, where they are under the supervision of the Preceptress. Outside rooming and boarding places may be obtained, subject to the approval of the Dean of Women. The rates for board and room are listed in the College catalogue.

Students registered for study in the regular courses of the Oregon Agricultural College School of Music are subject to the same rules and regulations as other students.

No student is permitted to omit lessons or practice without sufficient excuse and no refund will be made for absence from lessons or practice or for discontinuance, except in cases of severe personal illness; for such unavoidable absence lessons may be made up only by appointment, and before the expiration of the term. Students missing lessons by reason of severe illness attested by the official college physician or other acceptable medical authority, are strongly advised immediately to notify all instructors concerned. Loss of instruction time caused by failure to give such notification will be charged against the lesson account of the student.

Lessons falling on legal holidays, or on special holidays petitioned for by the student body or by special student organizations, which may be granted by the College authorities, will not be made up

unless arranged for with the instructor before said holiday, and duly approved by the Director.

Students are not permitted to transfer tuition accounts to others, nor to receive credit for tuition fees beyond the assigned registration period, except in cases of severe personal illness, or similar extreme necessity, attested by the College Physician, and then only by making suitable arrangements with the Director.

Students are required to inform themselves of all rules governing the School of Music by reference to the College catalogue, the bulletin boards in the Administration Building, and special notices issued from time to time by the Director. The letter and the spirit of all regulations will be consistently and impartially enforced, and it should be definitely understood that instructors are not expected to keep students informed of their obligations.

The college year in the School of Music consists of thirty-six weeks, divided into terms of approximately twelve weeks each, the first term beginning at the opening of the College on September 21. The Summer Session offers special opportunities for intensive study in music. Announcement of the summer courses offered is by special bulletin obtainable from the Registrar.

TUITION

Private individual instruction is given in lessons of thirty minutes each, in all departments of the School of Music. Class instruction in theoretical branches is required of candidates for graduation, as specified in the outlines of courses. Terms for instruction are as follows:

Voice Culture and Singing—Professor Gaskins, private instruction:

One lesson a week, a term.....\$24.00

Two lessons a week, a term..... 48.00

Assistant Tulley:

One lesson a week, a term.....\$15.00

Two lessons a week, a term..... 30.00

Pianoforte—Gustav Dunkelberger, private instruction:

One lesson a week, a term.....\$24.00

Two lessons a week, a term..... 48.00

Note: An inclusive pedagogical course for teachers in pianoforte and a special course for students desiring note-reading, ear-training, rhythm, and elementary composition of melodies, may be arranged for under Mr. Dunkelberger by application to the Director.

Pianoforte—Genevieve Baum-Gaskins, private instruction:

One lesson a week, a term.....\$24.00

Two lessons a week, a term..... 48.00

Dunning system, class instruction, minimum requirement

two lessons a week, a term..... 30.00

Pianoforte—Assistant Rowenhorst:

| | |
|---------------------------------|---------|
| One lesson a week, a term..... | \$15.00 |
| Two lessons a week, a term..... | 30.00 |
| Dunning System, a term..... | 30.00 |

Pianoforte—Ruth Rondeau, private instruction:

| | |
|---|---------|
| One lesson a week, a term..... | \$18.00 |
| Two lessons a week, a term..... | 36.00 |
| Elective: Instruction in Progressive Series. Two lessons a week, a term..... | 50.00 |
| Dunning System, a term..... | 30.00 |

Organ—Genevieve Baum-Gaskins, private instruction:

| | |
|---------------------------------|---------|
| One lesson a week, a term..... | \$36.00 |
| Two lessons a week, a term..... | 72.00 |

Violin, Viola—Carl Grissen, private instruction:

| | |
|---------------------------------|---------|
| One lesson a week, a term..... | \$24.00 |
| Two lessons a week, a term..... | 48.00 |

Band Instruments of All Kinds—Harry Linden Beard, private instruction:

| | |
|---------------------------------|---------|
| One lesson a week, a term..... | \$12.00 |
| Two lessons a week, a term..... | 24.00 |

Mandolin, Banjo—Florence Bowden, private instruction:

| | |
|---------------------------------|---------|
| One lesson a week, a term..... | \$15.00 |
| Two lessons a week, a term..... | 30.00 |

Violoncello—

| | |
|---------------------------------|---------|
| One lesson a week, a term..... | \$24.00 |
| Two lessons a week, a term..... | 48.00 |

Theory—Class instruction:

| | |
|--|---------|
| Gustav Dunkelberger, two recitations a week, a term..... | \$ 7.50 |
|--|---------|

Theory—Private instruction, elective:

| | |
|---|---------|
| Gustav Dunkelberger, twelve one-hour recitations..... | \$36.00 |
|---|---------|

Music History, Professor Gaskins, class instruction, free to students registered in the School of Music. To students not registered in the School of Music, one hour a week, a term\$ 5.00

PIANO AND ORGAN PRACTICE

Rooms located in the Administration Building have been suitably furnished for the use of students wishing to practice in private. These rooms may be rented for about one-third the cost of using pianos located in private houses, and without any of the disadvantages connected therewith. The rooms have steam heat, good ventilation, electric light for night practice, and janitor service, and are

furnished with good pianos, kept in tune by the College. Students living in the College dormitories are required to practice upon these pianos. Students living away from the campus may arrange with the Director for practice upon the same terms and conditions.

One pipe-organ, a new, modern Kimball two manual, concave pedal board instrument of beautiful tone, is available.

Rental Rates. The following rentals are charged for instrumental practice for each term of twelve weeks:

Piano—

| | |
|------------------------|---------|
| One hour a day..... | \$ 5.00 |
| Two hours a day..... | 7.50 |
| Three hours a day..... | 10.00 |
| Four hours a day..... | 12.50 |
| Five hours a day..... | 15.00 |

Organ—

| | |
|---|---------|
| Term of twelve weeks, one hour a day..... | \$15.00 |
| Two hours | 20.00 |
| Three hours | 25.00 |

CORRESPONDENCE

For additional information address William Frederic Gaskins, Director of the School of Music, Room 30, Administration Building, Oregon Agricultural College, Corvallis, Oregon.

Summer Session

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.

M. ELLWOOD SMITH, Ph.D., Director of the Summer Session; Dean of the School of Basic Arts and Sciences.

JOHN ANDREW BEXELL, A.M., Dean of the School of Commerce.

AVA BERTHA MILAM, Ph.B., A.M., Dean of the School of Home Economics.

MARY ANNETTE ROLFE, M.A., Dean of Women.

*Professors**

LOUIS BACH, M.A., Professor of Modern Languages.

HENRY CLAY BRANDON, A.M., Professor of Industrial Arts.

JESSE FRANKLIN BRUMBAUGH, A.M., Professor of Psychology.

NEWEL HOWLAND COMISH, M.S., Professor of Economics.

ULYSSES GRANT DUBACH, Ph.D., Professor of Government and Business Law.

JOHN FULTON, M.S., Professor of Chemistry.

WILLIAM FREDERIC GASKINS, B.Mus., Professor of Music.

HEBER HOWARD GIBSON, A.M., Professor of Agricultural Education.

WILLIAM JAMES GILMORE, B.S.A.E., Professor of Farm Mechanics.

JOHN B. HORNER, Litt.D., Professor of History.

GEORGE ROBERT HYSLOP, B.Sc., Professor of Farm Crops.

ALMA GRACE JOHNSON, B.Sc., Professor of Household Administration.

SHIRLEY JONES, M.S.A., Professor of Agricultural Chemistry.

ALFRED GUNN LUNN, B.Sc., Professor of Poultry Husbandry.

FARLEY DOTY McLOUTH, B.Sc., Professor of Art and Architecture.

CHARLES BUREN MITCHELL, A.M., Professor of Public Speaking.

ARTHUR LEE PECK, B.Sc., Professor of Landscape Gardening and Floriculture.

RICHARD BURR RUTHERFORD, A.B., Professor of Physical Education for Men; Director of Intercollegiate Athletics.

CHARLES VLADIS RUZEK, B.S.A., Professor of Soil Fertility.

FRANCIS LAWRENCE SNOW, Professor of Industrial Journalism.

HERBERT TOWNSEND VANCE, Professor of Office Training.

WILLIBALD WENIGER, Ph.D., Professor of Physics.

*Names are arranged alphabetically under two divisions: professors and instructors.

SIBYLLA HADWEN, Professor of Institutional Management; Director of Women's Dormitories; Preceptress, Waldo Hall.

LUCY MAY LEWIS, A.B., B.L.S., Librarian.

FRANK ABBOTT MAGRUDER, Ph.D., Associate Professor of Government and Business Law.

CHARLES ELMER OWENS, A.M., Associate Professor of Plant Pathology.

EARL DEWITT DOWSEE, B.Sc., Assistant Professor of Agricultural Education.

CHARLES JARVIS MCINTOSH, B.Sc., Assistant Professor of Industrial Journalism.

ETHA MABEL MAGINNIS, Assistant Professor of Office Training.

GUY LESLIE RATHBUN, M.P.E., Assistant Professor of Physical Education for Men.

BENJAMIN WILLIAM RODENWOLD, B.Sc., Assistant Professor of Animal Husbandry.

CHARLES CURTIS RUTH, M.S., Assistant Professor of Farm Crops.

HENRY CASE SEYMOUR, State Leader of Industrial Clubs.

DORIS MABEL THORNLEY, Assistant Professor of Physical Education for Women.

GEORGE REUBEN VARNEY, A.B., D.D., Assistant Professor of Public Speaking.

THOMAS WATSON, M.A., Assistant Professor of Organic and Food Chemistry.

HOWARD MARSHALL WIGHT, M.S., Assistant Professor of Zoology and Physiology.

Instructors

LEE CLEVELAND BALL, Instructor in Accounting.

FREDERICK HENRY BERNS, Instructor in Art.

JESSIE BILES, A.B., Instructor in Household Art.

LILLIAN BURNS, B.Sc., Instructor in Stenography.

SHARON OSBORNE BROWN, M.A., Instructor in English.

MINNIE DE MOTTE FRICK, Instructor in Office Training.

MARTIN LOUIS GRANNING, Instructor in Auto Mechanics.

WINIFRED HAZEN, B.Sc., Assistant Instructor in Institutional Management.

RUTH HJERTAAS, Instructor in Physical Education for Women.

WILLIAM HAMILTON HORNING, Instructor in Forging.

OLIVE HOWEY, B.S., Instructor in Household Art.

RUTH HENRIETTA KENNEDY, B.Sc., Instructor in Household Science.

CLIFFORD LUCAS, Instructor in Industrial Arts.

- LELAND MENTZER, B.Sc., Instructor in Industrial Arts.
 MARGARET MOREHOUSE, B.Sc., Instructor in Household Art.
 AMBROSE REUBEN NICHOLS, B.Sc., Instructor in Industrial Education.
 JAMES FRANKLIN PAGE, M.A., Instructor in Economics and Sociology.
 LOIS JOHNSON RANKIN, A.B., Instructor in Physical Education for Women.
 AMBROSE ELLIOTT RIDENOUR, B.Sc., Instructor in Foundry Practice.
 FRANK ROBINSON, Instructor in Accounting.
 ABRAHAM SCHWARTZ, B.Sc., Instructor in Chemistry.
 CLARK HARRIS SLOVER, M.A., Instructor in English.
 BLANCHE WHITTIER STEVENS, B.Sc., Instructor in Household Art.
 LILLIAN CATHERINE TAYLOR, B.Sc., Instructor in Household Science.
 DARWIN GREENE THAYER, M.A., Instructor in Mechanical Engineering.
 CHARLES WESLEY VANDEWALKER, A.B., Instructor in Mathematics.
 MARY VAN KIRK, Instructor in Household Art.
 BERNICE WAIT, M.S., Instructor in Household Science.
 EMMA SKINNER WELD, Ph.B., Instructor in Household Administration.

VISITING INSTRUCTORS

- PROFESSOR EUGENE F. BRADFORD, M.A.,
 Director of Admissions, Syracuse University
 Associate Professor of English, Syracuse University
- AGNES DONHAM,
 Education Director for Association for the Protection and Promotion
 of Savings, Directing the Home Savings Departments for two
 Boston Banks
 Graduate Boston Normal School of Cookery
 Author of "Marketing and Household Manual" and "Spending
 the Family Income."
- GENEVIEVE FISHER, B.S.,
 Formerly in charge of Teacher Training Work at Iowa State College
 Federal Agent for Home Economics for Vocational Education
- WINIFRED GETTEMY,
 Formerly Head of Department of Applied Art, Iowa State College
 Professor of Household Art, Michigan Agricultural College
- EDMUND GURNEY,
 Experienced Practicing Tailor, Portland, Oregon
 Lecturer on Methods of Teaching Tailoring
- CAROLINE HEDGER, M.D.,
 Medical Director of Elizabeth McCormick Memorial Fund, Chicago
 Formerly on Board of Infant Welfare Society, Chicago
 Representative of Chicago Women's Clubs during World War in
 Belgium for control of the typhoid epidemic, especially among
 children

MARY MCAULEY, S.M.,

Assistant Professor of Home Economics, University of Chicago

RUTH O'BRIEN, M.A., Ph.D.,

Assistant Professor of Household Chemistry, Iowa State College

ROLLA A. TALLCOTT, M.A.,

Head of Department of Public Speaking, Butler University
 Director of Department of Dramatics at Indiana College of Music
 and Fine Arts
 Formerly Dean of the School of Public Speaking, Valparaiso Uni-
 versity
 Platform lecturer and reader

NOLA TREAT, B.S.,

Assistant Professor of Institutional Management and manager of
 the dining hall and cafeteria, University of Minnesota
 Co-author of "Cafeteria Standards and Methods," University of
 Minnesota Extension bulletins, and of "Quantity Cookery,"
 Little-Brown & Co.

FLORENCE E. WARD,

Specialist in Federal States Relation Service
 Home Economics Extension worker

JESSAMINE CHAPMAN WILLIAMS, B.S.,

Professor of Home Economics, University of Arizona
 Assistant to Dr. Mary Swartz Rose at Columbia

CONVOCATION LECTURERS

The following are some of the visiting lecturers and readers who will appear in the program of popular lectures and entertainments given during the Summer Session:

RAY A. IMMEL, M.A.,

Associate Professor of Oratory, University of Michigan
 Secretary-Treasurer of National Association of Teachers of Speech
 Manager of the *Quarterly Journal of Speech Education*
 Well-known speaker and lecturer throughout the Middle West
 June 20, Clyde Fitch's "Nathan Hale;" June 21, Shaw's "The Devil's
 Disciple."

WILLIAM G. ANDERSON, M.A., M.Sc., M.D., Dr.P.H.,

Director of Yale University Gymnasium
 National President of Sigma Delta Psi
 Author and lecturer on Physical Education
 Conducted special investigations in Old Mexico, in the West Indies,
 and in Germany, England, Italy, and France
 June 28, "The Physical Basis of Psychic Activity;" June 29, "The
 Lengthening of the Life of the Resistive Forces of the Body"

HENRY LAWRENCE SOUTHWICK, M.O.,

President of Emerson College of Oratory
 Lyceum lecturer and reader
 July 5, "Julius Caesar;" July 6, an evening of miscellaneous read-
 ings

EDWARD T. DEVINE, Ph.D., LL.D.,

Editor of the *Survey*

Special Agent, American Embassy, Petrograd, 1916

Chief of Bureau of Refugees and Relief of the American Red Cross,
Paris, 1917-18

Formerly Professor of Social Economy, Columbia University

July 11, "Industry and Human Welfare;" July 12, "The Social Aim
of Modern American Education"

R. M. WENLEY, Ph.D.,

Head of Department of Philosophy, University of Michigan

July 13, "American Ideals and Their Preservation;" July 14, "Discipline and Conduct"

EUGENE F. BRADFORD,* M.A.,

Director of Admissions, Syracuse University

Associate Professor of English, Syracuse University

"Oxford;" second lecture and dates to be announced

ROLLA A. TALLCOTT,* M.A.,

Head of Department of Public Speaking, Butler University

Director of Department of Dramatics, Indiana College of Music and
Fine Arts

Formerly Dean of the School of Public Speaking, Valparaiso Uni-
versity

Platform lecturer and reader

Readings to be announced later

CAROLINE O. HEDGER,* M.D.,

Medical Director of the Elizabeth McCormick Fund

Formerly on Board of Infant Welfare Society, Chicago

Representative of Chicago Women's Clubs during World War in
Belgium for control of the typhoid epidemic, especially among
children

Lecture to be announced later

GENERAL INFORMATION

General facts relative to Scope, Admission, Expenses, Credits, etc., are given below. Further information of any kind, as well as any assistance that can be rendered students to plan their work in advance, or to make arrangements for coming, will be gladly furnished by the Director's office.

SCOPE

The Summer Session offers courses to meet the needs of a wide range of students and teachers with much or little previous preparation. Teachers, extension workers, students desiring either collegiate or entrance credit, and those interested in learning the practical arts of the home, the field, or the office, will find a variety of courses taught by experts.

*Listed also among visiting instructors, as giving regular courses in the Summer Session.

Teachers in the grades and in secondary schools will find special methods of teaching technical courses required in the school curriculum. Experts from outside the State as well as on the regular College staff will demonstrate the latest methods of teaching Agriculture, Commerce, Home Economics, Industrial Arts, and Physical Education in elementary and high schools.

The provisions of the **Smith-Hughes Act** have created a special demand for teachers of Agriculture, Home Economics, and other vocational subjects in the high schools of Oregon and neighboring states. The Oregon Agricultural College has been designated by the State Board for Vocational Education to train teachers for this work. Although adequate training of such teachers involves full four-year courses leading to a degree, the Summer Session offers many opportunities for teachers to fit themselves more adequately to meet the requirements of the Federal law. Some teachers need additional technical training with reference to subject-matter; others need additional professional training in Education in order to qualify. In either case the Summer Session affords an opportunity to secure the necessary preparation.

Physical Education. Full provision is made in the Summer Session for a wide choice on the part of coaches and teachers, both men and women, wishing to take up Physical Education. It is possible for teachers without previous training in this field to acquire sufficient proficiency in the six weeks of the Summer Session to handle the most necessary courses in the schools during the year. A full staff of instructors will provide courses ranging from elementary gymnastics, and the coaching of the various competitive sports, to pageantry.

Education. Courses in general and technical Education have been arranged for teachers who must take additional courses in Education to satisfy requirements for **certification**.

Extension Work. Special courses in Community Entertainment and Public Speaking, in Industrial Journalism, Story Telling, Playground Methods, and other allied subjects offer special opportunities for those engaged or expecting to engage in Extension activities.

Collegiate Credit. Courses also will be offered for **students** who wish to make up collegiate work which they have missed, or for those who wish to shorten the time of residence by carrying some of their required subjects during the vacation period. Students who have not been graduated from high school, but who wish to secure additional credits which will count toward **college entrance**, will find courses which will meet this need.

Other Opportunities. Others, whether with or without high school or technical training of any kind, will find courses open to them in all the practical fields of **Agriculture, Homemaking, or Business**, with elementary work for those who need it, and advanced work for those who are already proficient. The wide range of courses offering practical experience in Practice House, cafeteria, laboratories, and shops; the instructional staff; and the equipment—these, and all the other facilities of the Oregon Agricultural College make the Summer Session an institution of opportunity.

ADMISSION

All students who believe that they can profit by the instruction offered will be admitted without examination or the presentation of credentials. It is presumed that all who apply for admission have a serious purpose and are of good moral character. College credit will be granted to those qualified by entrance credit to receive it.

EXPENSES AND ACCOMMODATIONS

The amount of money required for six weeks attendance naturally varies with students. Some allowance must be made for incidental and personal expenses not included in the usual estimate.

The regular College registration fee of ten dollars, required of all students, is the only tuition charge. Those attending less than six weeks will pay at the rate of \$2.00 a week, a part of a week being counted as a full week, but no fee for less than \$5.00 will be accepted. This one fee will admit students to as many courses as they care to attend during the entire session. Laboratory and shop fees are listed under each course.

The College dormitories for women will accommodate three hundred students with board and lodging. A charge for the term of twelve dollars a person for a double room, or eighteen dollars for a single room, will be made to cover cost of heat, light, use of laundry, etc. The rooms are provided with bed, mattress, table, and chairs. Each student who desires to occupy one of these rooms must bring pillows, pillow-cases, sheets, blankets or comfort, bed-spread, and towels. A well equipped laundry room will be open for the use of students without extra charge. The Y. M. C. A. assists men students to find desirable accommodations in private homes adjacent to the campus.

A cafeteria will be open at Waldo Hall, with prices as low as possible, consistent with prevailing costs of supplies and service. At the cafeteria maintained during the last summer session, board averaged seven dollars a week. The expense, however, is entirely dependent upon individual choice.

The dormitories for women will be open for lodging, Sunday, June 18. Meal service will begin Sunday evening. Room charge for part of a week will be the same as for a full week.

Tenting privileges will be granted on application, for a nominal charge of \$1.00, to those providing their own tents. Water and toilet facilities are conveniently accessible. Fuel may be purchased at cost.

Since students registered for the Practice House course (HAd 450) will live in the Practice House throughout the Summer Session, they need make no other provisions for room and board.

Allowing \$54.00 for board and room, \$10.00 registration fee, \$1.00 for drayage on baggage, and \$10.00 for laundry and incidentals, the minimum cost for the entire six weeks may be estimated at \$75.00, exclusive of railroad fare. Those who take courses requiring textbooks or laboratory fees must make some additional allowance.

REGISTRATION

Students are requested to file a preliminary registration by filling out the Informal Registration Blank and mailing it as early as possible in order that arrangements may be made more completely for handling the work in the different departments. This application is not binding either as to attendance or choice of studies. Final registration should be made at the Director's office in the Library Building as early as possible on Monday, June 19. The Committee on Registration will be in session from 9:00 until 12:00 and from 2:00 until 5:00 in the main reading room, Library Building. Students should consult this Committee in making out courses and schedules. Because of the shortness of the session, students should arrive in time to complete registration on Monday in order to attend the first meeting of all their classes on Tuesday. Full credit cannot be given for students entering more than one week late. No course will be offered for less than five students, but if difficulty is experienced in arranging work, the student should consult the Director.

WITHDRAWAL

The term is so short and the fees are so low that refund of fees can be made only for withdrawal because of illness, certified to by some reputable physician and reported to the Director of the Summer Session at the time. Refunds can not be made for withdrawal reported later than one week from date of occurrence.

CREDIT FOR WORK

Students whose preparatory work qualifies them may receive college credit for the work taken to the extent indicated in the descriptions of the several courses. In general, the credit for

Summer Session work is approximated to that of the regular college year on the basis of three credits for five recitations a week through the session. A maximum of nine credits may be earned during the Summer Session as against sixteen and one-half credits in one term of the regular year. Credit in excess of the approved maximum may be allowed only on consent of the Director and with the provision that the student's general average for all subjects taken during the session shall be at least 85 percent.

GRADUATE CREDIT

Graduate credit is to be by special arrangement with departments concerned and approval of the Director. Work to qualify for graduate credit must be of a superior character. In courses open to graduate and undergraduate students, the graduate students will be expected to do additional work beyond the minimum requirements under special guidance of instructor.

The following courses taken under approved conditions will be recognized as of graduate character:

Agriculture: Agricultural Education 1, 2, 3, 4, 5, 6.

Commerce: Commercial Education 1; Economics and Sociology 1, 4; Political Science 2, 4.

Education and Psychology 2, 3, 5, 6.

Home Economics: Home Economics Education, 1, 2, 3; Household Administration 2, 4; Household Art 9, 12; Household Science 3, 5, 6; Institutional Management 2.

Physical Education: By special arrangement only.

Basic Arts and Sciences: Botany 2, 3; Chemistry 2, 5; English, 6, 7; Mathematics 5; Physics 2; Public Speaking 3, 5; Zoology 2.

APPOINTMENT OFFICE

Students and teachers attending the Summer Session will be assisted to find teaching positions for the following year by the School of Vocational Education, Forestry Building 201.

CONVENTIONS

The **American Home Economics Association** will hold its fifteenth annual convention at the Oregon Agricultural College August 1-5, 1922. This convention is expected to bring leading Home Economics women from every state in the Union, from Canada and from the Islands. This is the second time the annual convention has been held

on the coast and the first time in Oregon. A special train will bring the members from Chicago, with a two-day stop-over at Glacier Park, arriving in Portland at 7:45 on the morning of July 31. The day in Portland will be spent in a trip around the city and up the Columbia Highway. Delegates may come to Corvallis on Monday evening or the morning of the first.

The Convention makes one session of seven weeks with the regular Summer Session. The attention of those planning to attend the convention is directed to the courses, lecturers, and special features of the Session itself. For those who can devote only a part of the Summer to study, three weeks' courses have been arranged, and in a number of the full six weeks' courses, where the nature of the work allows, registration may take place at the beginning of the fourth week.

Other conventions to occur at the College during the Summer Session are: the annual session of the Synod of Oregon for the Presbyterian Church, July 10-14; the State Editorial Association, July 21-22; meeting of the Western Division of the American Physical Education Association, June 22; and Pacific Coast Conference for the Federal Board of Vocational Education, July 27-29.

SOCIAL AND OTHER FEATURES

A recreational, inspirational background is necessary for the best, most productive work in the summer time, and special attention will be given to the development of that spirit of friendliness and comradeship which should be a valuable part of the Summer School life. Besides week-end social affairs on the campus, hikes, a week-end at the Coast, and an excursion to Mary's Peak will be arranged.

POPULAR LECTURES

A feature of the Summer Session is the program of addresses by speakers of national distinction. Attention is called to the names of speakers already arranged for, announced on pages 12 and 13.

From June 27 to July 3 inclusive, the Ellison-White Chautauqua System will be offering a program in Corvallis which will be of interest to many of the students in the Summer Session.

SUMMER CLIMATE

Corvallis is pleasantly situated for summer study, the average summer temperature being 77 degrees F. A refreshing ocean breeze which sets in through a gap in the Coast Range to the west each afternoon insures a cool and tonic atmosphere. The city water system supplies absolutely pure mountain water.

COURSES OF INSTRUCTION

ARRANGEMENT OF COURSES

The courses in this Bulletin are arranged in two major groups, the first consisting of the more strictly technical or vocational departments, and the second comprising those subjects which constitute a part of any complete education and which are indispensable as foundation courses in technical education. To these are added miscellaneous or special courses. The schools or departments in the first, or Vocational group, are arranged in the Bulletin in alphabetic order, as follows: I. Agriculture. II. Commerce. III. Education. IV. Home Economics. V. Industrial Arts. VI. Industrial Journalism. VII. Physical Education. The second, or general group, consists of: VIII. Basic Arts and Sciences, under which head the different departments are arranged in alphabetic order. IX, Short Course for Boys and Girls. X, Summer School of Music.

CLASSES

Except in special cases, there are no classes scheduled to meet on Saturday.

I. AGRICULTURE

AGRICULTURAL EDUCATION

These courses are intended chiefly for two groups of students: (1) rural school teachers, supervisors, and club workers who are interested primarily in elementary agriculture; (2) those teachers who desire special training for teaching vocational agriculture in high schools. Although the students are expected to have had the subject-matter in science and agriculture, in adapting the courses in education to the needs and training of the student, subject-matter will be considered.

1. **Club Work and Agriculture in the Elementary School** (AEd 432s). Aims, materials, and methods of teaching and supervising elementary agriculture in upper elementary grades and junior high school. Particular stress is given to club work, covering the history, scope, organization, supervision, and administration. A course for prospective agriculture teachers, county agents, and club leaders.

Five periods; 3 credits.

E. D. Dorse

2. **Secondary Education in Agriculture** (AEd 402). The principles of education as applied to the teaching of vocational Agriculture in secondary schools. Aims, methods, and materials as adapted to the practical training of students over fourteen years of age are considered, including organization of courses, collection

and use of illustrative and reference materials, and the phases of classroom and laboratory instruction. Emphasis is given supervision of practical work on the farm.

Five periods; 3 credits.

E. D. Dorsee

3. Rural Education (AEd 431). The social and community elements of rural and agricultural education in relation to the school program; the place of the school in relation to other educational agencies in rural communities; the selection and organization of subject-matter relating to social and community activities and adapted to the needs of both elementary and high school; an analysis of methods that have been employed by various schools in the study and solution of community problems.

Four periods; 3 credits.

H. H. Gibson

4. Seminar in Agricultural Education (AEd 482). A discussion of special problems in the teaching of agriculture and in the administration of agricultural education. Required of graduate students and elective for seniors in Agricultural Education.

Time and credits to be arranged.

H. H. Gibson

Special Short Courses for Graduates and Teachers in Service Given During First Two Weeks of Summer Session

5. Surveys (AEd 453). The results of agricultural and rural surveys and investigations that have been made in other states and that are now being made in this State will furnish a large part of the material for this course. Through cooperative arrangement with the State Board for Vocational Education and the local school authorities and teachers, opportunities are given for field studies and research. This course should give the student a strong basis on which to build a constructive program of agricultural and rural education. Open to graduates with teaching experience and seniors by special permission.

Five periods; 1 credit, or 2 credits when field work is included.

H. H. Gibson, E. D. Dorsee

6. Project Job Analysis (AEd 463s). The subject-matter of vocational agriculture selected and organized not in a logical manner in keeping with a subject, but in accordance with the "jobs" or units of work involved in the execution of a farm project enterprise. Each student selects some farm project in actual operation as a basis for individual study and reports the results of his findings to the class.

Five periods; 1 credit.

H. H. Gibson

TECHNICAL AGRICULTURE

All departments of the School of Agriculture are at the service of Summer Session students. Courses will be arranged to meet the needs of groups of students whether they may be prospective

teachers or farmers. The following courses are suggestive of courses which will be adapted to meet the needs of those who may desire them.

1. **AH 111. Stock Judging I.** The various types of farm animals are studied by score cards and cooperative methods, and the student is made familiar with the desirable and undesirable types of beef and dairy cattle, sheep, swine, and horses.

Two recitations; 4 three-hour laboratory periods; 3 credits.

B. W. Rodenwold

2. **Poultry Husbandry (PH 201).** Includes a general discussion of breeds and varieties of poultry and of the practical application of the principles of incubation, brooding, rearing, feeding, breeding for egg production, housing, marketing, diseases, and general poultry management. Laboratory work includes a study of incubators and brooders; poultry houses and appliances; poultry feeds; study of eggs; candling and grading eggs; preserving eggs; methods of selecting laying hens and breeding fowls. The College poultry plant offers exceptional opportunities for study of practical poultry keeping. As far as possible students who desire it will be given practical work to do on the College farm.

Three lectures; 2 laboratory periods; 3 credits. Fee \$1.00.

A. G. Lunn

3. **Teaching Staple Crop Production to Rural and High School Pupils.** The presentation of practical phases of crop production and improvement; methods and material for laboratory work; use of field and laboratory demonstrations; field trips; chart, blackboard, and other illustrative material; material and methods for boys' and girls' club work; important phases of production that lend themselves to rural educational work. This course is useful to rural and Smith-Hughes teachers.

Three lectures; 3 two-hour laboratory periods; 3 credits. Fee \$1.00.

G. R. Hyslop, C. C. Ruth

4. **Landscape Gardening for School Grounds and Country Homes (Hrt 231).** Designed especially for those intending to teach this work. The course includes lectures on simple principles of design of grounds, followed by actual practice in the drafting room; out-of-door trips for familiarity with ornamental trees, shrubs, and vines; and studies in plant propagation, growth, and maintenance. Students should consult the instructor before registering.

Two lectures; 3 laboratory periods; 3 credits.

A. L. Peck

6. **Farm Mechanics (FM 111 or 112).** This course deals with types of mechanism of various machines, farm lighting plants, farm water-supply systems, concrete construction, gas engines, tractors,

automobiles, and accessories, plow adjustments and plow contests, and similar subjects.

Three lectures; 2 three-hour laboratory periods; 3 credits. Fee \$1.00. *W. J. Gilmore*

7. **Farm Mechanics for Smith-Hughes Teachers** (FM Special). Similar to the preceding course but presented from teacher's point of view. Arranged for if demand arises.

Three credits. Fee \$1.00. *W. J. Gilmore*

8. **Soils** (SIs 201). History and origin of soils; fertility and composition; exhaustion and replenishment; physical properties and constituents; relative value and importance; handling soils; practice in judging soil types; effect upon soils of tillage, manuring, crop rotation, drainage, and irrigation. Adapted for teachers of Agriculture.

Three lectures; 1 recitation; 2 three-hour laboratory periods; 3 credits. Fee \$2.00. Deposit \$2.00. *C. V. Ruzick*

II. COMMERCE

Each of the four departments of the School of Commerce offers courses both for teachers and general students. As indicated below, several of the courses are designed primarily for elementary and high-school teachers.

The departments of Business Administration and Stenography and Office Training offer work emphasizing methods in teaching, as well as practical instruction in the respective subjects. The Government and Business Law courses will also appeal to both teachers and general students. The courses in Economics are offered with the expectation that they will appeal to any or all of the following classes:

(1) The citizen of Oregon. (2) The college student. (3) Farmers and those interested in farming. (4) Teachers in public schools. (5) Those desiring training in Office Training and Stenography.

COMMERCIAL EDUCATION

1. **Secondary Education in Commerce** (CEd 451). Principles of education as applied to the teaching of shorthand, typewriting, business English, and bookkeeping in high schools, rapid review of subject-matter, with model lessons in each subject; lectures covering aims, materials, methods of presentation, organization of courses and arrangement of curriculum.

Five periods; 3 credits.

H. T. Vance

BUSINESS ADMINISTRATION

1. **Introduction to Accounting** (BA 101). A thorough but rapid study of the general principles of bookkeeping. The aim of this course is to afford those students entering the Vocational or Degree curricula in Commerce, who have not had a year of bookkeeping, an opportunity to secure preparation which will enable them to carry BA 102.

Five periods; 3 credits. Fee \$1.00.

L. C. Ball

2. **Principles of Accounting** (BA 102). Modern accounting as practiced in the best business establishments; the use of special columns; controlling accounts, and their adaptations; labor-saving devices of all kinds studied with a constant view to secure greater accuracy and to diminish work; practice in retail, wholesale, and financial statements.

Five periods; 3 credits. Fee \$1.00.

F. L. Robinson

3. **Teachers' Course in Bookkeeping** (BA 104s). A course for high-school teachers of bookkeeping, based upon the State Course of Study and the bookkeeping text followed in Oregon. Methods of presenting the subject of bookkeeping most effectively to high-school students will receive emphasis. A thorough knowledge of bookkeeping based upon at least a year's study or teaching is a prerequisite for this course.

Three periods; 2 credits. Fee \$0.50.

L. C. Ball

4. **Business Organization** (BA 331). General nature of business organization; evolution and forms of business units; structure and life-history of typical corporations; the corporation and trust problem; public utility corporations; reorganization and receivership; blue sky laws and state control.

Five periods; 3 credits.

J. A. Bexell

5. **Business Management for Women** (BA 371). The aim of this course is to treat in a practical way the ordinary rules and methods of conducting business affairs. Two distinct phases are emphasized as follows: (a) Finance. Value of money, how savings grow, banking and credit, general principles of investment, loan associations, stocks, and insurance. (b) Fundamentals of Business Law. The principles of the law of contracts, of negotiable paper, mortgages, real property, and wills.

Five periods; 3 credits.

F. L. Robinson

ECONOMICS AND SOCIOLOGY

1. **Conservation** (ES 211). Economic waste arising out of the exploitation of natural resources; the maladjustment of industry; the

misdirection of labor; the present order of consumption; conservation laws and policies tending to eliminate wastes and abuses.

Five periods; 3 credits.

N. H. Comish

2. **Introduction to Economics** (ES 391). Abbreviated course covering the elementary problems of our industrial and commercial organization, the nature of wealth, its production and consumption, the different forms in which it is found, conditions underlying successful commerce and manufacturing.

Five periods; 3 credits.

N. H. Comish

3. **Introduction to Sociology** (ES 393). A study of society in four parts, including: (1) the material and social causes affecting the life of society; (2) a cross-section analysis of the present social order; (3) social evolution, or the origin and development of social institutions; and (4) social control, or the conscious and unconscious modeling of society through the social forces and institutions.

Five periods; 3 credits.

J. F. Page

4. **Rural Sociology** (ES 464s). The problems of the rural family, rural church, rural societies and organizations, and the state so far as it is an ally of rural welfare; community ideals pertaining to labor, leisure, art, literature, recreation, marriage, divorce, crime, correction; relative social standing of the city and the country; programs tending to improve rural social life; rural social survey; rural construction. Text-book, assigned readings, lectures, and discussions.

Five periods; 3 credits.

J. F. Page

POLITICAL SCIENCE

1. **Business Law** (PS 163). A short course in the laws of business, covering briefly much the same field as PS 201 and PS 202, but applied particularly to the special needs of students. Recitations and discussions.

Five periods a week; 3 credits. Text: Huffcut, Elements of Business Law.

U. G. Dubach

2. **National Government** (PS 301). Consideration of the organization, functions, and present-day problems of the American Federal Government. Methods will be emphasized. Illustrative material and bibliography for teachers of Civics and History will be discussed.

Five periods; 3 credits. Text: Munro, Government of the United States.

U. G. Dubach

3. **State and Local Government** (PS 302). Consideration of the organization, functions, and present-day problems of state,

county, and township government in the United States. The government of Oregon receives special attention.

Five periods; 3 credits. Text: Munro, Government of the United States.
F. A. Magruder

4. International Relations (PS 401). America as a World Power and her relation to contemporary political, social, and economic world events; races, languages, religions, and types of government in Europe and the Near East; Great Britain and her imperial problems; fundamental principles of international law and proposed plans for preserving international peace; partition of Africa; the Chinese Republic; Japanese expansion; Oriental problem on the Pacific Coast; our relations with Canada and with Mexico; the Carribeans as an American problem; our interest and opportunities in South America; American ideals.

Five periods; 4 credits. *F. A. Magruder*

OFFICE TRAINING AND STENOGRAPHY

1. Elementary Stenography (OT 101). Theory of Manual, Gregg Shorthand, first eight lessons covered thoroughly. Short-hand penmanship given special attention.

Ten periods; 3 credits. *Minnie D. Frick*

2. Advanced Stenography (OT 103). Theory of manual completed; thorough review of principles; attention to phrase writing; dictation.

Prerequisite: OT 102. Ten periods; 3 credits.

Minnie D. Frick

3. Elementary Typing (OT 111). Touch typing. Theory and practice of touch typing, covering mastery of alphabet and numerals; finger gymnastics; rhythm drills; dictation exercises.

Ten periods; 2 credits. Fee \$2.00. *Minnie D. Frick*

4. Office Methods and Appliances (OT 251). Study and use of modern office appliances such as mimeoscope, mimeograph, dictaphones, calculating and bookkeeping devices, adding machines; filing and office routine.

Ten periods; 2 credits. Fee \$2.00. *Mabel Maginnis*

5. Advanced Typing (OT 113). Legal forms, tabulating, centering, manifolding, and speed practice. Speed certificates granted. A speed of fifty words a minute is required. Required of OT 103 students.

Ten periods; 2 credits. Fee \$2.00. Text: Rational Typewriting.

Lillian Burns

6. **Retail Selling** (BA 141). A general course covering the leading principles of retail salesmanship, and the development and expansion of the different aspects of the vocation, such as systems, policies, and conditions in retail stores.

Five periods; 3 credits.

H. T. Vance

III. EDUCATION AND PSYCHOLOGY

For special courses in Agricultural Education, Commercial Education, Industrial Arts Education, and Home Economics Education, see the descriptions of courses given under the respective heads, Agriculture, Commerce, Industrial Arts, and Home Economics. For example, for "Elementary Education in Agriculture" see the general section devoted to "Agriculture."

1. **Elementary Psychology** (Psy 301). A preparatory course in the fundamentals of mental life from the functional standpoint; emphasis upon the application of psychical laws to the ordinary affairs of life.

Five periods; 3 credits.

J. F. Brumbaugh

2. **Educational Psychology** (Psy 322). Principles and laws of mental life and development as applied to the teaching process; psychological value of the various methods and paraphernalia of school life.

Five periods; 3 credits.

J. F. Brumbaugh

3. **Ethics** (Eth 482). Meaning of our moral conceptions and principles; why they are binding; whence they are derived; a consideration of every-day customs and practices in the light of these principles; study of professional codes.

Five periods; 3 credits.

G. R. Varney

4. **Principles of Education** (Psy 473s). This course expounds the general problem of education and the merits and demerits of the various theories of education as they have succeeded each other, together with the numerous principles which have sprung from such doctrines and the modern reinterpretations of aims and practices connected therewith.

Five periods; 3 credits.

G. R. Varney

5. **Vocational Education**. A course especially designed for administrators and teachers who desire to secure an understanding of the problem of vocational education from the standpoints of administration, contents of courses, and method. The course deals with (1) the need for vocational education from the standpoint of society and the individual; (2) the principles of education governing the position of vocational education in the field of public education; (3) a

workable plan, based upon Federal and state law, for the promotion of vocational education; (4) the principles governing the selection of the content of vocational subjects and methods of teaching them.

Daily for three weeks, July 10-29; 1 credit. *E. R. Snyder*

(Note: Withdrawn because of illness. Substitute to be arranged.)

6. Continuation Education. A course designed for school administrators and teachers who desire to increase their knowledge of the service that the schools may perform for minors and adults of the community not in attendance upon full-time day schools. The course deals with (1) the need for continuation education from the social as well as the individual standpoint; (2) the problem of the analysis of types of persons to be served in continuation classes; (3) the subjects of instruction that can be profitably taught; (4) the problems of administering continuation education in such manner as to provide opportunity to adolescents and adults alike for such education as may be necessary to qualify them for good citizenship.

Daily for three weeks, July 10-29; 1 credit. *E. R. Snyder*

(Note: Withdrawn because of illness. Substitute to be arranged.)

IV. HOME ECONOMICS

The summer courses described in the succeeding pages may be classified, according to their purpose, into six groups as follows:

(1) Courses for Home Economics Teachers desiring further professional development. Many Home Economics teachers recognize the need of acquiring more skill and experience in designing and fitting; in modern and improved processes and methods in dressmaking; in remodeling garments; in choosing materials, trimmings, and designs; in textiles, hygiene of clothing, care and cost of clothing, etc. Others recognize the need of advanced work in foods and nutrition. Lack of knowledge of foods and nutrition is directly or indirectly responsible for a large share of the illness that exists. Furthermore, the information afforded by work in this field enables teachers to handle successfully the school lunch and solve the problems in diet and disease which constantly confront the teacher. Many are coming to recognize the need of more knowledge of scientific management in operating the home, solving the problems of household thrift, and proper spending of income. The teaching of thrift lies with the homemaker and the teacher.

That there is a constant need of more knowledge of child care and public health is evident from the increasing amount of malnutrition not only of adults but of children. Approximately one-third of the children in the United States are malnourished.

Special provision has been made for courses dealing with the Smith-Hughes work. A representative from the Federal Vocational Board will give a course including the major problems peculiar to this type of school. This work will be supplemented by lectures by the Chief of the Division during the last week of the Session. Additional unit courses will be offered to strengthen the Smith-Hughes teacher in special ways.

Among other six-week courses will be a course in Practice House and another in Cafeteria Management.

(2) **Courses for teachers of Home Economics who wish to enter the extension field, particularly in Home Demonstration work.** The field for extension work is growing rapidly and the demand is very much greater than the supply. Successful Home Economics teachers who wish to enter the extension field should have special training for the work. This special training can be obtained through study at the summer sessions. Lectures of special interest to Extension workers have been arranged. These will supplement the regular unit courses designed to strengthen the home economics extension worker in her particular line of work.

(3) **Courses for women, who have a knowledge of the fundamentals of Home Economics, but who desire more extended or more specific training.** These courses are for women who know the essentials of sewing but who desire a training in appreciation, a knowledge which will enable them to choose materials, trimmings, and styles in hats and garments which are becoming, appropriate, and artistic, and who wish to develop more independence and skill in cutting, fitting, constructing, and remodeling garments for themselves, or for children.

Many women who have a knowledge of cookery yet desire a knowledge of food values and the principles underlying cookery so that their families may be scientifically fed may find courses of interest. Some women desire training in fancy cookery. Through a demonstration course unusual and fancy cookery will be dealt with. This will be of special interest to housewives.

(4) **Courses for students in the School of Home Economics who wish to carry collegiate work during the Summer Session.** Their purpose may be to shorten the period of residence, to make up deficiencies, or to enrich their course by taking work for which they are not able to find room in their regular programs.

(5) **Courses for students who are not candidates for degrees at the Oregon Agricultural College; that is, students who take such courses as their preparation or experience qualify them to enter, but who are not desirous of having them credited toward a degree.**

(6) **Graduate courses in the various fields of Home Economics and allied departments will be given.** The American Home Economics Convention with a large number of speakers enables the school to secure more additional assistance than has been possible heretofore and to make graduate courses a very significant part of the Summer Session.

Equipment. The School of Home Economics of the Oregon Agricultural College is classed with the leading schools of its kind in the United States. Its special building, two of the three units of which are now in use, is well equipped with laboratories, home kitchens, dining-rooms, living-rooms, etc. The school established one of the first practice houses in the country, and has worked out a course through a series of years that is meeting the needs of the students.

HOME ECONOMICS EDUCATION

1. **Home Economics Education** (HEd 304). A brief history of development of Home Economics in the elementary and secondary schools; a study and analysis of a number of high school courses of study. Planning a course of study for a high school; planning and equipping a homemaking department.

Five periods; 3 credits.

Genevieve Fisher

2. **Home Economics in Secondary Schools** (HEd Special 1). This course is designed especially for those who have had teaching experience and will be concerned with the more advanced phases of Home Economics work. Special problems of the group will be made the basis for class discussion.

Five periods, first three weeks; 1½ credits.

Genevieve Fisher

3. **Smith-Hughes Work in Home Economics** (HEd Special 2). This course will be open to state supervisors, instructors in teacher training work, and Home Economics teachers who wish to acquaint themselves with the problems of Smith-Hughes work. It will include discussions of organization and administration, training of teachers, planning and equipping departments, methods of teaching.

Five periods; last three weeks; 1½ credits.

Genevieve Fisher

4. **Extension Methods** (HEd Special 3). Discussions of the organization of the Extension Service; its relation to the College, the United States Department of Agriculture; its aims; its program, and means of developing the program; methods of organizing its field work; discussion of the results secured in some of its more important projects.

Five periods; last two weeks; 1 credit.

Florence Ward

Note: The three courses scheduled in Home Economics Education and offered by Miss Fisher of the Federal Vocational Board should be of special interest to Smith-Hughes teachers.

In addition to these methods courses, the part-time and evening teacher should find among the courses suggested below, the work that should fit her particular needs.

Household Science:

| | |
|--|---------|
| Principles of Foods and Cookery (meal planning)..... | HS 101 |
| Food Problems for Teachers of Household Science..... | HS 214s |
| Nutrition (personal and family diets)..... | HS 320 |

Household Art:

| | |
|---|---------------|
| Practice Textiles (intelligent choosing and buying of household textiles) | HA Special 2s |
| Millinery | HA 321 |
| Dressmaking | HA 118 |
| House Planning and Furnishing | HA 431 |
| Costume Design | HA 331 |
| Children's Clothes | HA Special 3s |
| Tailoring | HA 416 |

Household Administration:

| | |
|----------------------------|----------------|
| Child Care | HAd Special 1s |
| Household Management | HA 440 |
| Family Budgeting | HAd Special 2s |
| Home Sanitation | HAd 300 |

HOUSEHOLD ADMINISTRATION

1. **Home Sanitation (HAd 300).** The house as a factor in health; situation, surroundings; ventilation, heating, lighting, plumbing, and drainage. The responsibility of the individual and of the home in relation to community well-being. Investigation and discussion of sanitary conditions from both practical and scientific standpoints, with special reference to public health and personal hygiene; school, rural, and urban problems and conditions. Designed for the homemaker and teacher of Home Economics.

Prerequisite: Elementary Bacteriology. Five periods; 3 credits.
Fee \$0.50. *Emma S. Weld*

2. **Child Care (HAd Special 1s).** This course will be centered on standards of health and the rational care of children at various ages, and will include some detailed instruction in nutrition of school children with practical work in chart making.

Ten periods a week for the last three weeks; 3 credits. Fee \$0.50.

Caroline Hedger, M. D.

3. **Household Management** (HAD 440). Application of the principles of scientific management to the home; study of the management of household operations and finances; study of family and community relationships. For homemakers and teachers of Home Economics.

Prerequisite: Economics. Five periods a week; 3 credits.
Fee \$0.50. *A. Grace Johnson, Agnes Donham*

The last three weeks of this course, dealing with Budgeting, may be taken separately for 1½ credits. See also below, "Family Budgeting."

4. **Family Budgeting** (HAD Special 2s). A scientific study of family financing through the discussion of cases. This course should meet the needs of the advanced student of Home Economics, who desires to do further research in family finances through special case work. It will also be of value to the housewife and others who desire to carry it in conjunction with the general budget work done in HAD 440.

Five periods, last three weeks; 2 credits. Fee \$0.50.

Agnes Donham

5. **Practice Housekeeping** (HAD 450). (HAD 440 should be taken parallel.) This course deals with the problems of the homemaker. It puts into actual practice under actual household conditions the knowledge gained in all other Home Economics courses, including child care. Students reside in the house for the entire period, of six weeks, and take turns in doing the various duties involved in the management of the house. Special attention is given to scientific management of the income as well as the various operations of the household. Other courses which do not have long laboratory hours may be carried at the same time. For homemakers and teachers of Home Economics, especially those desiring to teach in Smith-Hughes high schools. Students living in the house need be under no expense for board and room elsewhere. (Limited section.)

Prerequisite: HS 213 or equivalent. Daily house work; 4 credits.
Fee approximately \$6.00 a week for living expenses.

A. Grace Johnson

HOUSEHOLD ART

1. **Clothing Problems for Household Art Teachers** (HA 311s). Planning, designing, and constructing different types of garments with the purpose of developing good taste and judgment in selection of materials, combinations, decorations, designs, etc., and of increasing the speed, skill, initiative, and efficiency of the worker. Short cuts in sewing. Practical aids in teaching, etc. (Limited section.)

Five lectures; 5 two-hour laboratory periods; 3 hours outside work; 3 credits. Fee \$1.50. *Margaret Morehouse*

2. **Textiles and Clothing** (HA 113). Designing and constructing of simple silk dresses; remodeling problem in wool; art blouse; pattern modeling; emphasis on color, design, and texture; textile study of silk, wool, and minor fibers. (Limited section.)

Prerequisite: HA 112 or equivalent. Four lectures; 5 two-hour laboratory periods; 10 hours outside work; 4 credits. Fee \$1.50.

Jessie Biles

3. **Advanced Clothing and Textiles** (HA 311). This course aims to develop independence, initiative, originality, and art in planning and designing garments for different types of figures, also skill and speed in constructing garments. Children's clothes, lingerie dresses, and silk or wool garments are designed and constructed. Textile study of laces, embroideries, furs, tapestries, and rugs. Problems connected with clothing manufacture. (Limited section.)

Prerequisites: HA 113, A 130, HA 331 either prerequisite or parallel. Five lectures; 5 three-hour laboratory periods; 10 hours outside work; 5 credits. Fee \$1.50.

Mary VanKirk, Gertrude Strickland

4. **Dress Design and Construction** (HA 118). (Brief course for young women who have knowledge of technique of sewing but who desire a knowledge of the art of dressmaking for practical use.) Preparation and use of dress form; adaptation of commercial patterns; free-hand cutting; emphasis on choice of materials, good designs, etc.; fitting and principles of construction worked out on blouses, skirts, lingerie and wool or silk garments. (Limited section.)

Two lectures; 10 hours laboratory; 6 hours outside work; 3 credits. Fee \$1.50.

Blanche Stevens

5. **Costume Design** (HA 331). Study of proportions of figure, color, types, and personality; effects of line, proportion, color, and form in dress; problems in design and modeling based on art principles and historic study. (Limited section.)

Four lectures; 4 two-hour laboratory periods; 6 hours outside work; 3 credits. Fee \$1.50.

Winifred Gettemy

6. **House Decoration** (HA 431). Planning and furnishing of the home from the standpoint of art, economy, convenience, and sanitation. (Limited section.)

Five lectures; 2 two-hour laboratory periods; 9 hours outside work; 3 credits. Fee \$1.50.

Winifred Gettemy

7. **Millinery** (HA 321). Designing and constructing of frames; methods of covering; trimming; renovating. (Limited section.)

Five three-hour laboratory periods; 3 hours outside preparation; 3 credits. Fee \$1.50.

Olive Howey

8. **Tailoring** (HA 416). Principles and processes of tailoring; details of all styles of ladies' skirts and coats taught on small-model garments; cutting, fitting, and altering; correct use of commercial patterns and economy of material taught in making of suits and coats for self or for other people. Course given by experienced tailor. (Limited section.)

Five three-hour laboratory periods; 3 hours outside work; 3 credits. Fee \$1.00. *Edmund Gurney*

9. **Testing of Materials** (HA Special 1s). Study of the composition of materials, the substitutes and adulterants used, methods of combining, etc.; microscopic and chemical analysis of clothing and house furnishing materials. (Limited section.)

Two lectures; 5 two-hour laboratory periods; 1 credit. Last three weeks. Fee \$2.00. *Ruth O'Brien*

10. **Practical Textiles** (HA Special 2s.) A study of the properties and characteristics of all textile materials commonly found on the market, the factors affecting their cost, wearing quality, laundering properties, use, adaptability, etc. (First or last three weeks may be taken separately or together.)

One lecture daily; 7 hours outside work; 1 credit for each three weeks. Fee \$1.00. *Blanche Stevens*

11. **Children's Clothes** (HA Special 3s). Designing of children's clothes from basic pattern; use and adaptation of commercial designs; study of materials, designs, etc., appropriate for different ages. Practical information for high school and grade teachers. (Limited section.)

Four three-hour laboratory periods; 1 hour outside work; first three weeks; 1 credit. Fee \$1.00.

12. **Pattern Designing and Modeling** (HA Special 4s). Flat pattern designing; adaptation of designs for different individuals and purposes; modeling on the form to give practice in constructive design; draping.

Four three-hour laboratory periods; last three weeks. 1 credit.

Mary VanKirk

HOUSEHOLD SCIENCE

1. **Principles of Food and Cookery** (HS 101). For women who are unable to enter the regular courses in foods offered in School of Home Economics and students who have not had food work in high school. The instruction covers food preservation; study of foods, their selection and preparation; food requirements; planning and serving of meals and computation of their cost.

Four recitations; 4 three-hour laboratory periods; 4 credits. Fee \$4.00. *Lillian Taylor*

2. Food Problems for Teachers of Household Science (HS 214s).

This course is designed to assist teachers of Household Science in solving special teaching problems, and to enable teachers to develop skill and efficiency in cookery.

Four two-hour laboratory periods; 2 recitations; 3 credits. Fee \$4.00. *Emma S. Weld*

3. Nutrition (HS 320). Scientific study of food materials in their relation to the daily dietary of families under various conditions of environment; dietary standards of metabolism; comparison of the nutritive values of common foods by computing, preparing, and serving dietaries of specific costs, furnishing specific nutrients. (Limited section.)

Prerequisites: HS 213, ZP 321. Five recitations; 4 three-hour laboratory periods; 5 credits. Fee \$4.00. *Bernice Wait*

4. Camp Cookery (For women) (HS 450). A course designed to give advanced students of Home Economics training in application of principles of cookery to conditions found in camp. This course will be of special interest to teachers and leaders of Girl Scouts or Camp-fire Girls.

Two three-hour laboratory periods; 1 credit. Fee \$2.50.

Lillian Taylor

5. Advanced Nutrition (HS 620s). Lectures and laboratory work. (Limited section.)

Prerequisite: HS 320 or equivalent. Five lectures; 3 two-hour laboratory periods; 4 credits. Fee \$2.00. *Jessamine C. Williams*

6. Seminar Dealing with Nutrition Literature (HS 621s.) Five periods, first three weeks; repeated last three weeks if demand justifies. *Jessamine C. Williams*

7. Meal Planning and Serving (HS Special 1). Menu working with reference to food combinations, economic and nutritional conditions; marketing, cooking, and serving of home meals and meals for special occasions. Some advanced cookery included. (Limited section.)

Two three-hour laboratory periods; two recitations; 2 credits.

Ruth Kennedy

INSTITUTIONAL MANAGEMENT

1. Institutional Management Experience (IM 330). Work in office of Director of Dormitories; studies of business methods employed; inventories; records; equipment; time studies of regular and student help; practical work in kitchen and dining-room. This

course is planned to meet the individual needs of students in so far as possible.

Four three-hour laboratory periods; 2 lectures; 3 credits.

Sibylla Hadwen, Winifred Hazen

2. **Advanced Institutional Management** (IM 431). Marketing; organization; standardization; methods of training and choosing employees; keeping account records. Menu planning, as applied to different institutions; equipment. Plans of various types of institutions. The first two weeks will be devoted to Marketing and in charge of Miss McAuley. The last two weeks will be devoted to Institutional Management Problems under the direction of Miss Treat. The first, second, or third two weeks may be taken separately for a single credit.

Five periods; 3 credits.

Mary McAuley, Sibylla Hadwen, Nola Treat

V. INDUSTRIAL EDUCATION AND INDUSTRIAL ARTS

INDUSTRIAL EDUCATION

The courses listed below and those in Industrial Arts are planned to fit the needs of both Manual Training and vocational teachers in Trades and Industries. Teaching principles and methods will also be given to those who have had little or no teaching experience.

1. **Special Methods in Trades and Industries** (IEd 303s). The organization, administration, and teaching of industrial subjects to conform to the requirements of the Smith-Hughes Act; analysis of the various trades to determine teaching content; investigation into the values of different elements of selected trades or industries for the purpose of selecting a well-balanced course of study; lectures, readings, discussions, and written reports.

Five periods; 3 credits.

A. R. Nichols

2. **Foreman Training course as applied to the Manual Training Instructor** (IEd 400s). This course will deal with supervision and management of material, equipment, operations, and man factors in the industries, and in the manual training shops. Topics discussed will include: the teacher's place in the shop, the teacher as a supervisor, the teacher as a manager, management of equipment, safety, the promotion of interest, job pride, carelessness.

Daily for three weeks, June 19 to July 8; 2 credits. *A. R. Nichols*

INDUSTRIAL ARTS

These courses are adapted to the needs of those who are preparing to be special teachers and of special teachers who have good preparation but who realize the necessity of getting new

ideas and of talking over problems with educational leaders and with fellow teachers.

1. **Shop Drawing, Elementary** (IA 191s). A course for those who desire a working knowledge of drawing as applied to manual and industrial arts work. In the beginning the instruction deals with the elements of drawing, the use of drawing instruments, lettering, general construction, methods of representation, and free-hand sketching. Drawings are made of pieces of furniture and other articles to be worked out in the woodworking courses.

Ten periods; 3 credits. Fee \$0.50.

H. C. Brandon

2. **Shop Drawing and Furniture Design** (IA 193s). This course is open to those who have had the elementary course or its equivalent. Attention is given to the design of good pieces of furniture, of which working drawings are made. Different methods of projection are used.

Ten periods; 3 credits. Fee \$0.50.

H. C. Brandon

3. **Mechanical Drawing** (ME 111). The use of instruments and elementary principles of mechanical drawing are taught by a graded series of plates, including simple practice sheets, principles of orthographic projection, etc., supplemented by recitations and lectures from a standard text. As soon as practicable the copy sheets are discontinued and the student is required to make sketches and working drawings of typical machine details, such as pulleys, fly wheels, crank shafts, pump details, etc., from actual machines available in shops and drawing room. In addition, special drill in free-hand lettering is given at the beginning of each period throughout the course.

Ten periods; 3 credits. Fee \$0.50.

H. C. Brandon

4. **Woodworking, Elementary** (IA 121s). A course intended for those who wish to teach woodworking in the grammar grades consisting of lectures and recitation work upon the proper use of tools, a study of the growth and structure of woods, shrinkage, warpage, and seasoning of timber, staining and finishing. Considerable attention is given to the study of shop methods and of equipment. The shop work consists of practice in use of hand tools such as are found in the average manual-training shop. Practical, well-designed pieces of furniture or other articles conforming to the State Course of Study are worked out.

Ten periods; 3 credits. Fee \$4.00. Deposit \$1.00.

L. A. Mentser

5. **Woodworking, Advanced** (IA 114s). This course is intended for those students or teachers who have had the elementary course or its equivalent, and for others who want a more intimate knowl-

edge of the technique of woodworking. Considerable opportunity is afforded the student to do the kind of work in which he is interested. The work consists of theory and practice in cabinet-making, including case construction, veneering, table construction, etc. This work involves the care and operation of woodworking machines. The articles which the students make will be finished, giving practice in staining, filling, French polishing, waxing, and varnishing.

Ten periods; 3 credits. Fee \$4.00. Deposit \$1.00.

L. A. Mentzer

6. Carpentry Construction (IA 222). Correct use of the steel square in the laying out of practical carpenter work, window-sills, door-sills, bay and circular windows, steps, stairs, etc.; detailed construction of window and door frames, sills, caps; relation of rough frame work to interior and exterior finish; practice in reading plans; making out of material bills and estimates of the cost of material and labor; and the construction of a building on a reduced scale. If time permits a full-sized building will be constructed.

Ten periods; 3 credits. Fee \$6.00. Deposit \$1.00.
Deposit \$1.00.

D. G. Thayer

7. Blacksmithing, Elementary (IA 152s). The student is taught to make and manage a fire, to shape iron by bending, upsetting, drawing, and welding. Useful articles are made, such as hooks, staples, rings, clevises, and chains. Considerable attention is given to shop equipment.

Ten periods; 3 credits. Fee \$4.00.

W. H. Horning

8. Blacksmithing, Advanced (IA 252). For those having an elementary knowledge of blacksmithing considerable attention is given to the making of tools and to the treatment of steel.

Ten periods; 3 credits. Fee \$4.00.

W. H. Horning

9. Machine Shop Practice, Elementary (IA 262s). Problems are given involving basic principles of machine shop practice including the making of projects in bench work requiring chipping, filing, drilling, tapping, and fitting; of drill work dealing with drill grinding, drill speed feeds, and set-up work for rapid production; of lathe work consisting of centering, turning, straight and taper turning, chucking, boring, drilling, threading and eccentric turning; of shape-work covering plain and irregular surfaces, key-seating. Discussions and lectures are held on the use and operation of the various machines as applied to high-school shop work.

Ten periods; 3 credits. Fee \$4.00. Deposit \$1.00.

C. A. Lucas

10. **Machine Shop Practice, Advanced** (IA 461s, 462s). Work is offered involving the use of milling machines, lathes, planers, and other standard machines; opportunity being given also to make parts of machines, such as emery grinders, gas engines, lathes, etc. The student has practice in installing line shafting, babbitting, bearings, belt lacing, etc., and opportunity to specialize on that particular machine in which he is interested. Stress is laid upon the wide range of uses to which a small shop equipment can be put, and lectures and discussions deal with shop equipment and problems of high-school machine shops.

Prerequisite: Elementary Machine Shop Practice. Ten periods; 3 credits. Fee \$2.00. Deposit \$4.00. *C. A. Lucas*

11. **Auto Mechanics** (IA 181s). This course is intended for those students who wish an intimate knowledge of the process of overhauling and repairing of automobiles. Considerable attention is given to the types of construction as employed in machines of different manufacturers. Machines are taken apart and overhauled by the students.

Ten periods; 3 credits. Fee \$4.00.

M. L. Granning

12. **Foundry Practice** (IA 141s). This course includes a study of foundry equipment; care and management of cupolas; mixing and melting of iron; molding in green and dry sand; preparation of cores; casting in iron and brass.

Ten periods; 3 credits. Fee \$4.00.

A. E. Ridenour

VI. INDUSTRIAL JOURNALISM

Elementary Industrial Journalism (IJ 200). The course is intended to give the student practical experience in the fundamentals of news writing. It will be of value (1) for teachers who are called upon to supervise the publication of school periodicals or take charge of the preparation of copy for the school news column of local newspapers; (2) for county agents and home demonstration agents who desire training for the work of editing the Farm Bureau News. Students will assist in the preparation and editing of copy for the weekly Summer Session News. Methods of obtaining news of various types, the writing of the lead, and the general style of the news story are carefully explained. Requirements of individual students are considered.

Five periods; 3 credits.

F. L. Snow, C. J. McIntosh

VII. PHYSICAL EDUCATION

The opening of the new 100-by-50-foot swimming pool, the use of both Men's and Women's Gymnasiums, and the varied pro-

gram of courses for both men and women, marked a development in Physical Education last summer, which is carried on in the program for the current summer.

Fees. Each student registering for work in Physical Education will be charged a general fee of \$1.50 to cover cost of soap, towels, showers, etc. An additional fee of \$0.50 will be charged for use of the big swimming pool.

FOR MEN

The department of Physical Education for Men has frequent requests to recommend men for positions in which, besides teaching various academic subjects, they shall act as coaches of the various scholastic sports. The following courses are designed to qualify men for such positions. Students should have had some experience, however limited, either in coaching or in competitive sports. The six weeks work cannot in every case qualify for successful coaching, but it cannot fail to be of value to those who are fitted for the work.

The Staff will include Coach Rutherford and assistant.

Note: The work in the following courses is sufficiently varied to be of value to those having taken it during a previous summer, as well as to the new students.

1. **Football.** The theoretical work will take up the rules from the standpoint of coach, players, and officials; the several styles of offense and defense with consideration of their special strengths and weaknesses; generalship and strategy. The practical work will include training, conditioning, and player's equipment; punting, the various kinds of kicking, tackling dummy and charging sled; special drills for linemen, ends, and backs; interference and team work; fundamental plays, freak plays, and signal systems. Lectures and practical work.

Two two-hour periods; 3 credits.

R. B. Rutherford

2. **Basket-ball.** Instruction will be given in basket-ball with the idea of fitting men to coach. The course will cover passing, goal throwing, dribbling, team play, how to condition a team, and the different styles of play used by the leading coaches.

Two two-hour periods; 3 credits.

R. B. Rutherford

3. **Baseball.** Theory and practice in batting; base running; proper methods of fielding each position; team work and coaching methods; study of the rules; physical condition; methods of indoor practice.

Two two-hour periods; 2 credits.

G. L. Rathbun

4. **Track and Field Athletics.** Instruction and practical demonstration in starting, sprinting, distance running, hurdling, high

and broad jumping, pole vaulting, shot putting, and discus; practical talks on methods of preparing contestants for different athletic events; adaptations to individual peculiarities; rules of competition; study of physical condition, including endurance, speed, fatigue, and all means of training for condition; work is assigned for the promotion, management and officiating of games and meets. Lectures and practical work.

Two two-hour periods; 2 credits.

G. L. Rathbun

5. **Swimming.** Elementary and advanced courses in the various strokes will be taken up together with simple and fancy diving; also a course in life-saving.

Three hours; 1½ credits. Fee to be arranged.

R. B. Rutherford, G. L. Rathbun

6. **Training.** Theories of training, massage, treatment of sprains, bruises, bandaging, and first aid. Lectures and practical work.

Three periods; 1 credit.

G. L. Rathbun

7. **Tennis.** Theory and practice together with a course in organizing tennis clubs, and management and organization of tournaments.

Two periods; ½ credit.

G. L. Rathbun, R. B. Rutherford

8. **Schoolroom Games and Gymnastics for Rural School Teachers.** This course outlines the work for schools in which all grades take their gymnastic work together.

Four periods; 2 credits.

G. L. Rathbun

9. **Elementary Gymnastics, Calisthenics** and light apparatus work for men exclusively.

Three periods; 1 credit.

R. B. Rutherford, G. L. Rathbun

FOR WOMEN

The work in Physical Education for Women is outlined for students and teachers wishing training for work in elementary schools, high schools, and playgrounds. These courses aim to help the teachers generally throughout the State as well as special teachers in Physical Education.

Staff. The courses are taught by the regular members of the department under the direction of Professor Edna A. Cocks.

Supervisors and Extension Workers will find such practical courses as 3 (PEw 131b), 12 (PEw 375), and 17 (PEw 472), adapted to their needs in organization of recreation and community gatherings. Attention is also called to courses in Rural Entertainment, Story Telling, Public Speaking, Industrial Journalism, Rural

Sociology, and other allied subjects to be found in their appropriate departments.

Teachers untrained in Physical Education wishing to take up this work in high schools or elementary schools will find the program of courses they should take at the conclusion of the list of courses below.

Outfit. Women will require for the regular gymnasium work and dancing classes and for basket-ball the regulation black gymnasium suit or middy and bloomers, with black hose and black gymnasium or black tennis shoes. For aesthetic dancing the ballet shoe is worn. Suits may be obtained through the gymnasium office. For field and athletic work a full, short, white skirt and middy, with tennis or sport shoes are worn.

Practical Courses

1. **Elementary Gymnastics** (PEw 111s). A course in Swedish gymnastics, combining floor and apparatus work with training in correct posture and breathing.

Five periods; 1 credit.

Ruth Hjertaas

2. **Elementary Aesthetic Dancing** (PEw 131as). Aesthetic technique and practice of rhythmic movements; simple aesthetic dances.

Five periods for first three weeks; $\frac{1}{2}$ credit.

Ruth Hjertaas

3. **Elementary Folk Dancing** (PEw 131bs). The simple national folk dances of all nations.

Five periods for the last three weeks; $\frac{1}{2}$ credit.

Ruth Hjertaas

4. **Outdoor Sports** (PEw 141s). (a) Tennis, first three weeks; 5 periods; $\frac{1}{2}$ credit. (b) Hockey and (g) Track Athletics and Volley ball, last three weeks; 5 periods; $\frac{1}{2}$ credit. (c) Basket-ball, first three weeks; 5 periods; $\frac{1}{2}$ credit. (d) Baseball, last three weeks; 5 periods; $\frac{1}{2}$ credit.

Lois Rankin

5. **Elementary Swimming** (PEw 151s). The teaching of the ordinary back stroke, side stroke, breast stroke, and simple diving.

Five periods; 1 credit.

Lois Rankin

6. **Advanced Gymnastics and Light Apparatus** (PEw 211s). A more advanced course in general gymnastics for students who have had elementary gymnastics.

Five periods; 1 credit.

Ruth Hjertaas

7. **Advanced Swimming** (PEw 252s). The teaching of more intricate strokes, fancy diving, fancy swimming, and life-saving.

Five periods; 1 credit.

Lois Rankin

8. **Advanced Aesthetic Dancing** (PEw 331as). For students who have had Elementary Aesthetic Dancing.

Five periods for last three weeks; $\frac{1}{2}$ credit. *Ruth Hjertaas*

9. **Advanced Folk Dancing** (PEw 331bs). Continuation of Elementary Folk Dancing.

Five periods for first three weeks; $\frac{1}{2}$ credit. *Ruth Hjertaas*

Theoretic Courses

10. **Hygiene and Sanitary Science** (PEw 423s). This course takes up the vital points in hygiene and sanitation and includes the theory of teaching the subject in elementary and high schools.

Five periods; 3 credits. *Doris Thornely*

11. **Kinesiology** (PEw 344). A study of the anatomy of the motor organs with special reference to joint and muscular development.

Five periods; 3 credits.

12. **Playground and Gymnastic Games** (PEw 375). School games; dramatic and singing games; lectures on the theory of games.

Five periods; 3 credits. *Doris Thornely*

13. **Pageantry and Community Recreation** (PEw 473s). How to conduct pageants; kinds and development of pageants; community recreation necessary for leaders in community work.

Five periods; 3 credits. *Ruth Hjertaas*

14. **Theory and Coaching of Athletic Sports for Women** (PEw 376s). Includes all organized sports and track athletics, with lectures and reference reading.

Five periods; 3 credits. *Lois Rankin*

15. **Public School Methods in Physical Education** (PEw 461s). Interpretation of State "Course in Physical Instruction."

Five periods; 3 credits. *Doris Thornely*

16. **Practice Teaching** (PEw 464s). This course is to be taken in connection with course 15 above, giving practical application of the principles of Physical Education.

Five periods; 2 credits. *Doris Thornely*

17. **Organization and Administration of Physical Education and Recreation** (PEw 472). Development, organization, and management of physical education; the playground movement, construction and equipment; use of apparatus; government and discipline.

Five periods; 3 credits. *Doris Thornely*

Special Training Courses

Students untrained in physical education needing such training for work in high schools or elementary schools should take such of the following work as the Director of this department advises:

1. Elementary Gymnastics (PEw 111s).
2. Elementary Aesthetic Dancing (PEw 131as) and 3. Elementary Folk Dancing (PEw 131bs).
4. Tennis, Hockey, Basket-ball, Baseball, Track Athletics, and Volley Ball (PEw 141as, 141bs, 141cs, 141ds, 141gs, respectively).
5. Elementary Swimming (PEw 151s).
10. Advanced Hygiene and Sanitary Science (PEw 423s).
12. Playground and Gymnastic Games (PEw 375s).
15. Public School Methods in Physical Education (PEw 461s).
16. Practice Teaching (PEw 464s).

VIII. BASIC ARTS AND SCIENCES**ART**

1. **Drawing and Composition** (A 110s). This course covers work in representation; still life in line and dark and light; free-hand perspective of circles, and linear perspective; some of the principles of composition and design. The pencil, charcoal, and brush and ink are used as media.

Three double periods; 2 credits. Fee \$.50. *F. D. McLouth*

2. **Advanced Water-color** (A 332s). A study of the different processes in making a water-color drawing and their effectiveness in reaching certain results; methods and styles, decorative or pictorial; much attention to direct handling to retain the charm and freshness of color. In this course advanced work is offered to those who have studied water-color and who care to continue the work as a foundation to other study. Students are required to have a working knowledge of drawing and color and to have had beginning water-color.

Three two-hour studio periods; 1 hour of outside reading; 2 credits. Fee \$.50. *F. D. McLouth*

3. **Design** (A 120s.) The elements of design construction and their application to problems of dress and the home are made the basis of the course.

Three two-hour periods; 2 credits. Fee \$.50. *F. H. Berns*

4. **The Theory and Harmony of Color** (A 130s). This course covers the study of the so-called primary colors, the development of the prismatic colors with their complements, color quality, color

values, and the various harmonies. Problems are rendered in original color schemes. The study and the adaptation of nature color and color from color prints are an important feature of the course. All problems point to appropriate use of pleasing color schemes as applied to articles of household use, home interiors, and dress.

Three two-hour periods; 2 credits. Fee \$0.50.

F. D. McLouth, F. H. Berns

5. Block Printing (A 460s). The course includes the various methods of block printing and the mediums used. The student first composes the design on paper, later transferring it to the block for cutting. The printing of the block design on paper or cloth follows. The problems in the course in block printing will include the making of designs for book-plates, greeting cards, landscapes, poster stamps, as well as borders and all-over designs for collars, waists, table runners, floor cushions, pillows, etc. Students are required to have had Drawing and Composition, Design and Color, or their equivalent.

Three two-hour studio periods; 2 hours of outside preparation; 2 credits. Fee \$0.50.

F. H. Berns

BOTANY

The members of the Botany department staff stand ready at all times to confer with students of the Summer Session who may desire information or assistance along any of the lines of work included within the field of general botany, plant physiology, plant diseases and their control, weeds, poisonous plants, drug plants, ornamental plants, plant classification, methods of preparing botanical or plant pathological specimens. A large staff of workers, engaged in work along these special lines, is always ready to give advice and information to students interested in botany and plant pathology. The large collection of flowering plants, fungi, and plant diseases, are at the disposal of students.

1. Principles of Botany: The Seed Plants (Bot 203). A study of the structure and vital activities of seed plants, the root, stem, leaf, flower, and fruit. The relation of growing plants to the environment; to light, air, moisture supply, soil elements, etc.

One lecture; 1 recitation; 3 two-hour laboratory periods; 3 credits. Fee \$1.50. Text: Martin, Botany.

C. E. Owens

2. The Teaching of Botany (Bot 471). (For prospective teachers of agriculture or natural science in secondary schools.) Deals with point of view, methods, materials, texts, and equipment in teaching plant science subjects and considers the manner in which the work should be adapted to the interests, needs, and possibilities of any particular community.

Prerequisite: An elementary course in Botany. Three credits; 1 lecture; 1 recitation; 3 three-hour laboratory periods or field trips; 3 credits. Fee \$1.50. Deposit \$1.00. *C. E. Owens*

3. **Graduate Work in Botany:** Work toward a master's degree with major in Botany and Plant Pathology in the School of Agriculture is open to any college graduate who has completed the requirements expected of students who enter this field. The work is outlined by the head of the department with the approval of the Graduate Committee. The studies are carried forward under the immediate direction of the specialist in the department whose training and experience best fit him to direct the student in the particular field he has chosen for his major.

CHEMISTRY

1. **General Chemistry** (Ch 103). Metallic elements and their compounds; elementary study of the principles of qualitative analysis; further extension and application of the principles of chemical equilibrium; the law of mass-action; theory of solution; the periodic law; laboratory work in elementary qualitative analysis and, in addition, a few typical exercises in gravimetric and volumetric analysis, including acidimetry and alkalimetry. This course is designed particularly for students behind in one term of required General Chemistry. If students require more than one term of General Chemistry they should consult the Director of the Summer Session as early as possible.

Prerequisites: Ch 101, 102. Three recitations; 3 three-hour laboratory periods; 3 credits. *A. Schwartz*

2. **Physiological Chemistry of Nutrition** (Ch 361). Qualitative tests and quantitative analysis of the end products of metabolism. Effects of changes in diet on the composition of the blood and urine. This course, elective in Home Economics, will be adapted to meet the needs of Pharmacy students, satisfying the requirements of Ch 461.

Prerequisites: Ch 221 and 222. Three recitations; 2 three-hour laboratory periods; 3 credits; or 5 recitations, 3 three-hour laboratory periods, 5 credits. *Thomas Watson*

3. **Qualitative Analysis** (Ch. 131). This course consists largely of laboratory practice in the ordinary processes of separating and identifying ions.

Five four-hour laboratory periods; 3 credits.

4. **Quantitative Analysis** (Ch 241). This course consists of elementary gravimetric and volumetric analysis. By special ar-

rangement this course can be made the equivalent of Ch 247 required of Agriculture students.

Five four-hour laboratory periods; 3 credits.

Note: Those wishing this course should file preliminary registration with the Director of the Summer Session at least one week before the opening of the session.

5. **Agricultural Chemistry** (Ch 251 or 651). Primarily for teachers in rural or other high schools. The purpose is to assist the student to a thorough understanding of the chemical principles involved in the growth of farm crops and their utilization. In the laboratory the student will work with those compounds which give to this or that crop its commercial value for manufacturing or food purposes.

Prerequisite: One year of general Chemistry. Five four-hour laboratory periods; 4, 5, or 6 credits. Fee \$1.50. *J. S. Jones*

Laboratory Fees. For each course in Chemistry, except Ch 131, a fee of \$4.50 and a deposit of \$2.00 are charged, the latter returnable, less breakage. For Ch 131 a fee of \$7.00 and a deposit fee of \$2.00 are charged.

ENGLISH

Composition

Third Year of High School English:

A. First semester of third year high school English; 5 periods; no college credit; $\frac{1}{2}$ unit ($\frac{1}{2}$ year) entrance credit.

B. Second semester of third year high school English; 5 periods; no college credit; $\frac{1}{2}$ unit ($\frac{1}{2}$ year) entrance credit. *C. H. Slover*

1. **Principles of English Composition** (Eng 101). Review of principles of rhetoric; practice in written and oral composition; frequent conferences between instructors and students as aids in meeting individual needs.

Five periods; 3 credits. Text: Foerster and Steadman, Sentences and Thinking. *S. O. Brown*

2. **Business English** (Eng 105). The business letter in detail, special attention being given to letters of application and letters of inquiry and information. At least two long themes, one being a sales argument and the other an advertising narrative, are required. Recitations, note-book work, conferences.

Five periods; 3 credits. Text: Hotchkiss and Kilduff, Advanced Business Correspondence. *S. O. Brown*

3. **Technical Composition** (Eng 103). Outline and precis making; technical reports; a study of scientific exposition.

Five periods; 3 credits. Text: Fulton, Expository Writing.

S. O. Brown

4. **Industrial Journalism** (IJ 200). See "Industrial Journalism" above.

Literature

5. **American Literature** (Eng 433). Emphasis on the period from 1870 to the present. Lectures, discussions, reports on assigned topics.

Five periods; 3 credits.

E. F. Bradford

6. **The Short-Story** (Eng. 213 or 613). Reading and analysis of a number of short-stories by recognized masters and contributors to contemporary magazines. Lectures on the history and development of the form. Reports and class discussions.

Five periods; 3 credits.

E. F. Bradford

7. **Contemporary Poetry in English** (Eng 444). Emphasis on Masfield, Noyes, Hardy, Robinson, Frost, Lindsay, Masters, and Amy Lowell.

Five periods; 3 credits.

E. F. Bradford

8. **Public Speaking and Dramatics**. See announcement under "Public Speaking."

HISTORY

Hst A. **Short Course in the History of the United States since 1789**. For entrance credit only.

Five periods; $\frac{1}{2}$ unit ($\frac{1}{2}$ year) entrance credit.

J. B. Horner

Hst 126. **Recent History of the United States**. History of the United States of America from the Civil War to the present time. Collateral with the text, such matters as the negro problem, the industrial revolution, capitalism and socialism, free silver, direct government, woman suffrage, the new nationalism, imperialism, the labor movement, the Panama-Colombia question, our relations with Europe and the Latin-American republics, are discussed.

Five periods; 3 credits.

J. B. Horner

Hst. 340. **History of Oregon**. Includes history of Old Oregon now known as the Northwest States. Five epochs: early explorations; fur trade and colonization; provisional government; territorial government; state government; Indian folk-lore; history of Oregon literature.

Five periods; 3 credits. Text: Horner, Oregon.

J. B. Horner

LIBRARY PRACTICE

To students in the Summer Session one of the most valuable assets is the library. The Oregon Agricultural College library, now housed in the beautiful new Library Building, consists of a classified collection, numbering 57,000 volumes, of standard works of

history, biography, pure and applied science, economics, sociology, education, literature, and reference. In addition there are many thousand reports, bulletins, and other publications of the various colleges and experiment stations, and of societies and commissions. All this material is easily accessible through catalogues and indexes.

Library Practice for School Librarians (Lib 400s). This course is designed to aid teachers who have charge of school libraries in connection with their teaching work. It is not a course in librarianship, and can in no respect be considered a substitute for a library training course. The work consists in lectures on school libraries in Oregon; Oregon library law; the Oregon State Library, its lists, publications, and traveling libraries; selection and ordering of books; simplified classification and catalogue forms; business records and loan systems. There will be one demonstration in mending and cleaning books. The lectures on selection of books will include notes on publishers of school books, dealers in second-hand books and remainders, specially prepared lists for school needs, and selection of technical books for Smith-Hughes courses.

Three periods; 2 credits.

Lucy M. Lewis

MATHEMATICS

1. **Elementary Algebra** (Mth 21). This course deals with the fundamental operations, factoring, highest common factor, lowest common multiple, and fractions. Emphasis is placed upon factoring.

Five periods; 4 credits (entrance credit only). *C. V. Vandewalker*

2. **Elementary Algebra** (Mth 24). The chief topics considered are the theory of exponents, radicals, quadratic equations, and logarithms.

Five periods; 4 credits (entrance credit only). *C. V. Vandewalker*

3. **Plane Geometry** (Mth 81). The first two books of Wentworth and Smith's Geometry. (High school students who have had no geometry are strongly advised not to attempt this course.)

Five periods; 4 credits (entrance credit only). *C. V. Vandewalker*

4. **Elementary Analysis** (Mth 131). Review of Algebra including radical expressions, quadratic equations, binomial theorem, progressions, and complex numbers. In Analytical Geometry the point, straight line, circle, conic sections, and some of the higher plane curves are studied. Considerable time is given to the plotting of curves in both rectangular and polar coordinates.

Six periods; 4 credits.

C. V. Vandewalker

5. **Teacher's Course in Algebra and Geometry** (400s). A study of selected topics in both algebra and geometry with emphasis upon methods of presentation. Application of the laboratory method to

the teaching of high-school mathematics will receive particular attention. This course is intended for prospective high-school instructors but is open to all who are interested in the subjects offered.

Five periods; 3 credits.

C. V. Vandewalker

PHYSICS

1. **General Physics** (Ph 202). The work of two consecutive summer sessions covers the same ground as courses Ph 201, 202 of the regular college year. Each summer's work is self-contained, so that the course may be started at any time. These two courses are suitable as review courses for high school teachers.

Electricity, Sound, and Light Summer of 1922

Mechanics and Heat Summer of 1923

Prerequisites: Elementary Physics, Plane Geometry. Fifteen hours recitation, lecture, or laboratory work; 3 credits. Fee \$2.00.

W. Weniger

2. **Teachers' Course** (Ph 400s). This is not a duplicate of any course given during the regular college year. It is designed to give assistance to the teacher of high school Physics. The specified topics treated will depend largely on the individual troubles that members of the class have encountered in their teaching experience. Some of the topics that may be discussed are: selection of reference books in physics; selection and purchase of apparatus; materials used in making physical apparatus, with consideration of properties, standard sizes, etc.; making and repairing apparatus, with practice in soldering, silvering, glass blowing, mixing and using laboratory cements and waxes, care of storage batteries, production of vacua, etc.

Fifteen hours; 3 credits. Fee \$4.00.

W. Weniger

Note: If six or more students apply for a different course in Physics it may be arranged for.

MODERN LANGUAGES

1. **Elementary French** (ML 111). Drill in the rudiments of the language; oral and written exercises; idiomatic translations; reading of easy selections. Not given for fewer than fifteen students.

Five periods; 3 credits.

L. Bach

2. **Elementary Spanish** (ML 121). Essentials of vocabulary and grammar; auxiliaries, regular and radical changing verbs, and some of the more common irregular forms; reading of easy prose selections; idiomatic translations, oral drill and conversation. Not given for fewer than fifteen students.

Five periods; 3 credits.

L. Bach

Note: Advanced courses will be arranged if there is sufficient demand.

R. A. Tallcott

PUBLIC SPEAKING AND DRAMATICS

1. **Principles of Story Telling** (PSp 467s). For students preparing for playground, kindergarten, nursery, and extension work. Purpose of story; psychological reasoning for selected stories for different periods of childhood; fairy tales; folk lore; fable; Bible stories; myths; legends; nature and animal stories; hero tales; realistic stories; allegories; symbolic stories; dramatic stories; individual practice with criticism and suggestion, under critic teacher.

Five periods; 3 credits.

R. A. Tallcott

2. **Practical Public Speaking** (PSp 251). Practice in the construction and presentation of original speeches; study of gesture, bearing, and the elements of ease and force in presentation; voice training; criticism on organization of material and delivery.

Five periods; 3 credits.

C. B. Mitchell

3. **Argumentation** (PSp 256). Practical work in brief-drawing, collection and handling of evidence, and construction of the argumentative speech. Each student constructs several briefs and delivers several speeches. Criticism on presentation and construction.

Five periods; 3 credits.

C. B. Mitchell

4. **Play Reading** (PSp Special 1s). The dramatic interpretation of an entire play cut for public reading. Selections of material, method of cutting, characterization, mood interpretation, setting, descriptive presentation, personation, etc.

Five periods; 3 credits.

R. A. Tallcott

5. **Community Entertainment** (PSp Special 2s). This course is designed to meet the needs of rural leaders. It deals with the forms of entertainment that are suitable for presentation in rural communities, and gives practice in utilizing the facilities in rural halls, school-houses, churches, and private lawns. (a) or (b) may be taken separately, but it is strongly recommended that they be taken together.

(a). Pantomimes, tableaux, plays, etc. Five periods; 3 credits.

R. A. Tallcott

(b). Make-up, pageantry, shadow pictures, costume, etc. Five periods; 3 credits.

C. B. Mitchell

6. **Coaching High School Oral English and Declamation** (PSp Special 3). The importance of oral English and training of oratory is receiving constantly increased recognition. This course aims to give direction and definiteness to teaching which is too often aimless and ineffective.

Five periods; 3 credits.

G. R. Varney

ZOOLOGY

Animal Ecology (ZP 233). The relation of animals to their environment; the habits, associations, and economic importance of the various groups of animals. This course gives training in fundamental principles of zoology and features outdoor work.

Three credits; 1 lecture; 1 recitation; 3 three-hour laboratory periods. Fee \$1.50. *H. M. Wight*

Graduate Work in Zoology (Zp 690s). Students wishing to investigate special problems for graduate credit will be directed by members of the staff under special arrangements.

Hours and credits to be arranged.

SUMMER SCHOOL FOR MEMBERS OF BOYS' AND GIRLS' CLUBS

Direction of H. C. SEYMOUR, State Club Leader

A two-week course for boys and girls in practical Agriculture and Home Economics, correlated with Club work, will be given on the campus of the Oregon Agricultural College June 12 to 24.

Two hundred thirty-seven enrolled in 1921. The Club members at the State Fair who placed first in the various projects or divisions of the projects, are all members of this summer school, their expenses being paid by Portland business men and livestock breeders' associations, who donate the money for these trips. In addition, many counties, organizations, and clubs, have offered the scholarship as prizes to their Club members and will send large delegations. Other Club members will be admitted upon the acceptance of their applications, up to the number that may be accommodated, expenses to be paid by the applicant.

The girls will be quartered in Cauthorn and Snell Halls and the boys in the Men's Dormitory. They will all be chaperoned by members of the faculty, who will be on duty both day and night. Supervisors will be in charge of the boys and girls in all forms of recreation and during all time outside of classrooms, to insure each individual boy or girl enjoying his or her share of all the good times provided.

Classroom and field instruction will occupy about four hours each day, except Saturday and Sunday. This instruction not only will be quite different in matter and method from the usual school instruction but will be varied so as to avoid monotony. Physical recreation for both boys and girls will be a prominent feature of the course. Indoor and outdoor sports of all kinds will be taught. These will include swimming in the pools under safe and expert instruction, and only under adequate supervision. Trips to neighboring points of interest will also be taken.

At each general assembly the speaker will be some prominent official or business man or woman of the State. The Club members have an opportunity at such gatherings to come into contact with people of importance.

Method of Admission. The names of those placing first at the State Fair have been filed with the Director of the Summer Session, and reservations made. All others who wish admittance should fill out the Application Blank and send it as soon as possible to the Director of the Summer Session or the State Club Leader. A few days before leaving home a card should be mailed, notifying the State Club Leader on what train you will arrive in Corvallis.

Those whose names have not been filed should note carefully the following directions:

(1) The applications must be approved by the county school superintendent or county club leader.

(2) Applications should be filed on or before June 1. All applications will be acknowledged and acted upon at once.

(3) Applications may be sent after June 1, but no assurance can be given that they will be accepted.

Expenses. The fee for board and lodging is \$15.00. An additional allowance of a dollar or two should be made for drayage, note-books, pencils, etc. It is not well for young people to have too much spending money.

Each boy should be provided with complete change of underwear, shirts, and socks, for two weeks (he should have overalls or extra suit to work in); with bedding, including sheets, blankets or comforts, and pillows; with towels, soap, handkerchiefs, comb; brushes for hair, teeth, and clothes. Tennis shoes are required on the gymnasium floor; baseball gloves, bats, etc., tennis rackets, and bathing suits, will also find use. Lockers will be provided for safe-keeping of each boy's clothing and equipment.

Each girl will need to bring a sufficient number of changes of underwear to last the entire two weeks, wash dress and apron to wear exclusively for cookery; a pair of bloomers (these may be galatea or of some kind of woolen material), and tennis shoes. Other items of personal effects, bedding, etc., are the same as for the boys, listed above.

SUMMER SCHOOL OF MUSIC

FACULTY

WILLIAM FREDERIC GASKINS, Mus.B., Director

Voice Culture and Singing, Music History

Graduate student Hillsdale College Conservatory, Michigan; graduate student American Conservatory, Chicago; graduate pupil of Karlton Hackett, Chicago; F. X. Arens, New York; J. Harry Wheeler, New York; J. D. Mehan, New York; Percy Rector Stephens, New York.

GENEVIEVE BAUM-GASKINS, Instructor

Organ, Piano

Graduate American Conservatory, Chicago; pupil of Wilhelm Middelschulte, Chicago; John J. Hattstaedt, Chicago; Karlton Hackett, Chicago; William Nelson Burritt, New York; William Frederic Gaskins, Chicago.

GUSTAV DUNKELBERGER, Mus.B., Instructor

Pianoforte and Theory

Graduate of Bethel College Conservatory; graduate student American Conservatory, Chicago; student of Heniot Levy, Chicago; Arthur Olaf Anderson, Chicago; Adolph Weidig, Chicago; pianoforte pupil of Richard Buhlig, a pupil of Leschetizky; pupil of Dr. Percy Goetschius; pupil of Louis Victor Saar.

RUTH RONDEAU, Assistant Instructor

Pianoforte

Graduate Oregon Agricultural College School of Music; graduate student of Calvin Cady, Columbia University; graduate student of Lhevinne, American Conservatory, Chicago; Specialist in the Progressive Series.

CARL GRISSIN, Instructor

Violin, Viola

Student of Karl Halir, Gustav Hollaender, Berlin; Edmund Singer, Samuel d'Lange, Joseph Mayer, Stuttgart.

FLORENCE BOWDEN, Assistant Instructor

String Instruments

Student in Violincello of Frederic Konrad, Leo Schultz, August Anderson; and in Mandolin, Banjo, Guitar, student of Guillaume LeBlanc, Jose Martinez, Carlos Rebagliati.

HARRY LINDEN BEARD, Instructor

Theory and Art of Playing Band Instruments; Band Conducting

Student of Herbert L. Clarke of Sousa's Band.

Arrangements for the study of voice culture and singing, piano, pipe-organ, harmony, history of music, string and band instruments may be made only with the Director of the School of Music at his office, early in the session.

A limited number of pupils in the study of the pipe-organ will be accepted on application therefor not later than July 1.

Unless otherwise designated, all instruction is in private individual lessons of 30 minutes' duration. Only such lessons will be made up as may have been omitted by reason of the severe illness of the student or the instructor's unavoidable absence.

Tuitions will not be refunded for discontinuance of lessons.

Fees for instruction are as follows, payable in advance at the Business Office of the College:

| | |
|---|------------------------------|
| Voice culture and singing, Prof. Gaskins..... | \$36.00 a term of 18 lessons |
| Piano, Mrs. Gaskins | \$36.00 a term of 18 lessons |
| Pipe-organ, Mrs. Gaskins | \$36.00 a term of 12 lessons |
| String Instruments, Mr. Grissen..... | \$36.00 a term of 12 lessons |
| Band Instruments, Mr. Beard..... | \$22.50 a term of 18 lessons |
| Harmony, Theory, Mr. Dunkelberger..... | \$ 7.50 a term of 18 lessons |
| Piano teachers' special course, 20 lessons, Mr. Dunkelberger | \$50.00 a term |

For these tuitions, students are entitled to three lessons a week in voice culture and singing or piano; or two lessons in pipe-organ; or to three class lessons a week of one hour each in harmony.

Practice on piano in private room may also be obtained by application to the Director. Pianos are located on the campus, and within easy reach of living quarters and classrooms.

Rates for practice are as follows:

| | |
|---------------------------------------|---------|
| One hour a day, for six weeks..... | \$ 2.50 |
| Two hours a day, for six weeks..... | 5.00 |
| Three hours a day, for six weeks..... | 7.50 |
| Practice on pipe-organ: | |
| Two hours a day, for six weeks..... | \$15.00 |
| Four hours a day, for six weeks..... | 20.00 |

The pipe-organ for use in teaching and practice is a new Kimball, modern in every respect, and of superior tone and mechanism.

For additional information address William Frederic Gaskins, Director of the School of Music, Administration Building, Oregon Agricultural College, Corvallis, Oregon.

Experiment Station

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.
JAMES TERTIUS JARDINE, B.Sc., Director of the Experiment Station.
EDWIN THOMAS REED, B.Sc., A.B., Editor of Publications.

Agricultural Chemistry

J. SHIRLEY JONES, M.S., Chemist.
REGINALD HEBER ROBINSON, M.S., Associate Chemist.
*HARRY GEORGE MILLER, M.S., Associate Chemist.
DELOSS EVERETT BULLIS, B.Sc., Assistant Chemist.
*JOHN CHARLES REEDER, B.Sc., Assistant Chemist.
WILLARD WILSON YATES, B.Sc., Assistant Chemist.

Animal Husbandry

ERMINE LAWRENCE POTTER, M.S., Animal Husbandman.
ORAN MILTON NELSON, B.Sc., Associate Animal Husbandman.
ALFRED WEAVER OLIVER, B.Sc., Assistant Animal Husbandman.

Bacteriology

GODFREY VERNON COPSON, M.S., Bacteriologist.
WILLIAM VERNAL HALVERSEN, M.S., Assistant Bacteriologist.

Botany and Plant Pathology

HOWARD PHILLIPS BARSS, A.B., S.M., Plant Pathologist.
MARION BERTICE MCKAY, M.S., Associate Plant Pathologist.
SANFORD MYRON ZELLER, Ph.D., Associate Plant Pathologist.
HORACE M. WOOLMAN, Field Assistant, Office of Cereal Investigations,
United States Department of Agriculture.

Dairy Husbandry

PHILLIP MARTIN BRANDT, B.Sc. in Agr., A.M., Dairy Husbandman.
ROY CARROL JONES, B.Sc., Associate Dairy Husbandman.

Entomology

LESTER LOVETT, B.Sc., Entomologist.
FRANK HEIDTMAN LATHROP, A.B., M.S., Associate Entomologist.
BENTLEY BALL FULTON, B.A., Associate Entomologist.

* On leave of absence.

Farm Crops

GEORGE ROBERT HYSLOP, B.Sc., Farm Crop Specialist.

CHARLES CURTIS RUTH, B.Ped., M.S., Assistant Farm Crop Specialist.

JOHN RICHARD NEVIUS, B.Sc., Assistant Farm Crop Specialist.

HARRY AUGUST SCHOTH, M.S., Scientific Assistant in Forage Crops,
United States Department of Agriculture.

AGNES RYDER, Scientific Assistant, Seed Laboratory, United States
Department of Agriculture (Seed Analyst).

Farm Management

HENRY DESBOROUGH SCUDDER, B.Sc., Chief in Farm Management.

Horticulture

WALTER SHELDON BROWN, A.B., M.S., Horticulturist in Charge.

EDWARD MARIS HARVEY, Ph.D., Horticulturist (Physiology).

ARTHUR GEORGE BOUQUET, B.Sc., Horticulturist (Vegetable Gardening).

ERNEST HERMAN WIEGAND, B.Sc., Horticulturist (Horticultural Pro-
ducts).

CARL EPHRIAM SCHUSTER, M.S., Assistant Horticulturist (Pomology).

ANDREW EDWARD MURNEEK, M.S., Assistant Horticulturist (Physi-
ology).

RAY POWERS, B.Sc., Junior Chemist, Bureau of Chemistry, United States
Department of Agriculture, Cooperative Investigator, Horticultural
Products.

Poultry Husbandry

JAMES DRYDEN, Poultry Husbandman in Charge.

ALFRED GUNN LUNN, B.Sc., Poultry Husbandman.

FRANK LESTER KNOWLTON, B.Sc., Research Assistant in Poultry Hus-
bandry.

*CHARLES KELLY POWELL, B.Sc., Assistant in Poultry Husbandry.

Soils

WILBUR LOUIS POWERS, M.S., Chief, Department of Soils.

CHARLES VLADIS RUZEK, B.Sc., Associate in Soils (Fertility).

EDWARD FRITCHOFF TORGERSOHN, B.Sc., Assistant in Soils (Soil Surveys).

WILLIAM WATERS JOHNSTON, B.Sc., Assistant in Soils (Irrigation).

DOUGLAS WILLIAM RITCHIE, B.Sc., Assistant in Soils (Irrigation).

Veterinary Medicine

BENNETT THOMAS SIMMS, D.V.M., Veterinarian.

FREDERICK WILHELM MILLER, M.S., D.V.M., Assistant Veterinarian.

* On leave of absence.

Zoology

HOWARD MARSHALL WIGHT, M.S., Assistant Zoologist.

Branch Experiment Stations

DAVID EDMUND STEPHENS, B.Sc., Superintendent, Sherman County Branch Experiment Station, Moro.

FRANK CHARLES REIMER, M.S., Superintendent, Southern Oregon Branch Experiment Station, Talent.

ROBERT WITHYCOMBE, B.Sc., Superintendent, Eastern Oregon Branch Experiment Station, Union.

LEROY CHILDS, A.B., Superintendent, Hood River Branch Experiment Station, Hood River.

GEORGE GORDON BROWN, B.Sc., Horticulturist, Hood River Branch Experiment Station, Hood River.

HAROLD KARL DEAN, B.Sc., Superintendent, Umatilla Branch Experiment Station, Hermiston.

ALBERT EDWARD ENGBRETSON, B.Sc., Superintendent John Jacob Astor Branch Experiment Station, Astoria.

OBIL SHATTUCK, M.S., Superintendent, Harney County Branch Experiment Station, Burns.

THE HOME STATION

The Oregon Agricultural College Experiment Station was organized July 2, 1888, in accordance with the Act of Congress of 1887 known as the Hatch Act. The Experiment Station includes the Home Station at Corvallis and seven branch stations advantageously located throughout the State in such a way as to cover the varying agricultural conditions of the State. At the Home Station about 900 acres of land are used by the College and Station workers engaged in the scientific investigation of problems presented by the different branches of agriculture. The Station organization includes the following departments: Agricultural Chemistry, Animal Husbandry, Bacteriology, Botany and Plant Pathology, Dairy Husbandry, Entomology, Farm Crops, Farm Management, Horticulture, Poultry Husbandry, Soils, Veterinary Medicine, Zoology. In addition to the experimental work carried on by the departments of the Station proper, experimental work is conducted by the School of Engineering, the School of Home Economics, and the School of Pharmacy.

The scientific investigations of the Station Staff strongly support the instruction given in the classroom and through the Extension Service. Aside from the original investigations of economic significance to agriculture, the work affords daily object lessons in

modern farm methods. To the students in the various fields of study the value of the investigative work can hardly be overestimated. To the State, from the point of view of economic progress, its value has been greater, in the estimation of many people, than the entire cost of the College to the people. The work of the Experiment Station is fundamental in the agricultural development of the State. Oregon's soil and climatic conditions present many problems that are unique and that must be solved before the State can develop its great potential agricultural wealth.

As an instance of the general appreciation on the part of Oregonians of the services rendered by the Experiment Station, mention may be made of the strong endorsement presented to the 1919 Legislature through special delegations. No less than six separate delegations representing respectively the horticultural interests, the dairy interests, the Hood River district, the Southern Oregon district, and the Astoria district, covering practically every part of the State, urged upon the Legislature that the assistance of the Experiment Station was essential to the progress and development of their work.

As an illustration of the comprehensive character of the investigational work carried on by the Station, the following brief summaries of projects, by departments, are presented:

Agricultural Chemistry. Chemical research in agriculture at present is concerned with the following: (1) Spray materials. The effect of suspensoids or spreaders on the chemical and physical properties of arsenicals is the latest phase of this work. (2) Soil acidity, the specific object in view being to determine the fundamental reasons explanatory of the fact that some acid soils respond to lime treatment while others (acid by the same tests) do not. (3) Sulfur in the role of a fertilizer. Remarkable increases in yields of legumes have been secured on some types of soil in Oregon from the use of sulfur-carrying fertilizers; investigations in progress indicate a far-reaching effect of sulfur on the chemical nature of the proteins in clover and alfalfa. (4) The composition of commonly grown legumes. The data secured bear upon relative feeding values and the agronomic significance of the several legumes. (5) Yellow-berry in winter wheat. The objective points are the determination of the cause of yellow-berry and means of control on wheat farms of the middle Columbia River Basin. (6) Soil survey. This is cooperative with the department of Soils. Analytical work on leading soil types determines for them their content of the several elements of plant food. It enables comparison of soil types from the standpoint of native fertility and suggests needful fertilizer practice. (7) Enforcement of State Fertilizer and Lime laws. This work involves analy-

ses of fertilizer and lime samples and insures compliance on the part of fertilizer manufacturers and dealers in lime with the very reasonable requirements of the respective laws.

Animal Husbandry. Experiments in Animal Husbandry, which comprehend tests with horses, beef cattle, sheep, and swine, are conducted partly at the Corvallis Station and partly at the Eastern Oregon branch station. Experiments with horses are directed to determine the cost of horse-power for various types of farm and other work, the amount of work that may reasonably be expected from a horse, the cost of keep, etc. Experiments with beef cattle, conducted chiefly at Union, are concerned with fattening steers on various rations and with methods of maturing range cattle. Experiments with sheep have been directed to determine the cost of production, the carrying capacity of different types of pasture, methods of fattening sheep, maturing ewes, and methods of rearing and marketing lambs for meat purposes. Experiments with hogs involve the cost of production, including rapidity of gain; and comparison of different feeding rations and methods of feeding, including the use of pasture.

Bacteriology. Experimental work in Bacteriology at present is confined to one major problem and two minor problems. The major problem is a microbiological study of certain acid soils in Oregon. The reason some acid soils show crop response when lime is applied while others do not may be found by careful study of the biological activities involved in the elaboration of the plant food. Preliminary results indicate that liming of the soil brings about a biological response in correlation with increased crop-producing power. An attempt is also being made to determine the relationship between the reaction of the soil and the amount of atmospheric nitrogen fixed in the soil by the soil bacteria.

As minor problems so far (1) preliminary work on the sulfur-oxidizing power of different soils is being undertaken, the object being to determine why some soils show such enormous crop response to sulfur while others show very little response. (2) Bacteriological studies of hemorrhagic septicemia in cattle, sheep, and hogs are being carried on in cooperation with the department of Veterinary Medicine. So little is known about this disease that the diagnosis is often in doubt and the causative organism questioned. Vaccines properly prepared from the supposed causative organism seem to be effective as a prophylactic and curative agent, but definite results from controlled experiments are disappointing.

Bacteriological studies, field observation, and vaccination studies are being carried on.

Botany and Plant Pathology. The work in this department includes the following investigations: methods of control for grain smuts and their effect on the vitality of the seed; wilt diseases of potatoes and potato blackleg; onion smut control; relative efficiency of various fungicides both liquid and dust; control of peach diseases; Oregon crop-disease survey; the deterioration of orchard trees through bark and wood decays and other causes; European canker of apple and pear.

Dairy Husbandry. Investigations in this department are now concerned primarily with problems of production, although a few of the studies in manufacturing are being continued. The problems of raising calves on milk substitutes and suitable home-grown milk substitutes for this purpose are under study; comparative study of different forage crops for silage for dairy cows is in progress; winter rations for growing dairy heifers are being studied to determine the most economical feeds for this purpose; and mill-run, bran, cotton-seed meal, cocoanut meal in different combinations are under comparative study as to their value as feeds for milk production. Observations are being made to determine the keeping quality of butter as affected by different methods of cream neutralization and pasteurization; to determine the cost of manufacture of different dairy products under commercial conditions; to determine, by testing the different factors in the handling of milk, what are the essentials in reducing the bacterial count of milk for market.

Entomology. Experiments in Entomology include: (1) tests to determine the toxicity of various insecticides, to discover new and cheaper insecticides, to discover possible combinations of sprays that will reduce the number of necessary applications, to determine the actual amount of poison necessary to kill a given insect; (2) artificial propagation of beneficial insects; (3) control of root borers and other root-infesting insects; and (4) ecological, life-history, and control studies on orchard plant lice, leaf-rollers, and codling-moth; (5) forest insects.

Farm Crops. The experimental work in Farm Crops consists of: (1) Forage work with vetches and related plants, red, burr, and sweet clovers; soy beans; horse beans; alfalfa; grasses for seed and for hay; pasture mixtures; the study of hay in the stack and in the mow; and some experiments on the making of silage. (2) Cereal experiments in varietal testing; breeding and nursery work with wheat and oats; varietal testing with barley, corn, and flax. (3) Potato experiments, including varietal trials; time and method of planting; methods of cutting; and hill selection and fertilizer work. (4) Weed control and eradication. (5) Crop rotations. (6) Miscellaneous experiments with hard seed and milling quality of wheat.

It is proposed, when sufficient funds and land are available, to establish an extensive plant-breeding experiment in field crops, a rotation experiment based on crop yield and economy of production, and a tillage experiment to work out problems of seed bed preparation, seeding, and handling of various crops.

Farm Management. By means of the farm survey and through farm-record keeping and study of individual cases, a number of the important phases of farm management are being investigated. These are as follows: (1) The determination of the chief factors in successful farming in six different counties of the State, through farm surveys and records. (2) Determination of the cost of production of different crop and livestock products and the cost of various farm operations, in sixteen counties, through record keeping. (3) Methods, efficiency, and costs in manure handling and preservation, through a survey. (4) Farm organization and management planning on individual farms. (5) Methods and costs of land clearing under different conditions.

Some special study is being given to labor supply and labor efficiency on the farm at this time.

Horticulture. Experiments in Horticulture comprise the following types of investigations: (1) More complex phases of pruning including (a) relation of the nitrogen-carbohydrate ratio to pruning practices, and (b) relation of carbohydrates and nitrogen to the behavior of apple spurs. (2) Varietal pruning, the working out of the best pruning practices adapted to the growth of different varieties of fruits. (3) Experiments with stocks of prunes. (4) Propagation of the filbert. (5) Breeding investigations with the filbert. (6) Strawberry variety tests. (7) Fertilizer investigations. (8) Breeding investigations with walnuts, apples, prunes, and strawberries. (9) Vegetable Gardening investigations in (a) field irrigation, (b) seed strain trials, (c) miscellaneous greenhouse crops. (10) Investigations with by-products of fruits and vegetables. (11) Harvesting and storage investigations with pears.

Poultry Husbandry. Experiments in Poultry Husbandry are chiefly concerned with problems of incubation and with breeding fowls for high average egg production, and for a combination of egg production and meat value. Results in both fields of experimentation have already been remarkable and promise still greater progress towards the objects desired.

Soils. The work in this department includes the following twelve specific investigational projects: fertility rotations; fertilizer experiments; soil-acidity tests and lime trials; cooperative soil survey; soil correction trials; toxicity of alkali salts to crops; cooperative tillage

and soil moisture studies; surveys and feasibility of irrigation and drainage projects; cooperative duty of water and related investigations; experiments in the distribution of water and improvement of irrigation practice; drainage and improvement of wet soils; evaporation and weather studies in relation to soil production; improvement of water laws; critical soil-moisture points for different crops; phosphorus in "red hill" soils; maintenance of organic matter in the soil; functions of sulfur in relation to soil; the use and value of manure. A comprehensive system of crop rotations and fertilizer trials is being conducted on some fifteen of the chief soils of the State to help develop a permanent system of agriculture. The duty of water and related investigations are conducted cooperatively with the United States Department of Agriculture. It is state-wide in scope with agents at Klamath, Redmond, and Burns in Eastern Oregon. The aim is to determine the right amount of water for the chief soil types and leading crops under the main types of farming in the principal irrigated valleys of the State. The surveys to determine the feasibility of proposed drainage or irrigation projects are made as demand arises. The experiments in drainage are to determine the most efficient depths and distance apart for placing drains in soils of different types, and for testing the efficiency of bedding drains in straw as compared with soils. Since there are one-half million acres of marsh lands in the State and three million acres of land periodically wet, the value of these investigations is obvious. If efficient drainage should add to the value of the land the average determined for this work in the Middle West, the reclamation of the State's wet soils would add at least \$10.00 an acre to the value of these millions of acres.

Veterinary Medicine. The experimental work of this department is for the present devoted primarily to investigation of diseases of cattle, most attention being given to infectious abortion and sterility in breeding cattle. Some attention is given to anthrax and hemorrhagic septicemia in cattle, to hog cholera, "shipping fever" and forage poisoning in horses, and botulism (limberneck) in fowls.

Zoology. The limited funds and man power devoted to investigations have been centered on studies in the control of damage to agricultural crops by pocket-gophers and moles.

THE BRANCH STATIONS

The seven branch stations at Astoria, Burns, Hermiston, Hood River, Moro, Talent, and Union, conduct experiments on the major agricultural problems of their respective agricultural sections of the State.

The John Jacob Astor Branch Station. At Astoria the major problems are dairying, improvement of farm crops, soil fertility, and soil management for Coast conditions and the drainage, improvement, and cultivation of tide lands.

The Harney Valley Branch Station. The station at Burns is conducting experiments in both dry-farming and irrigation agriculture as to: (1) varietal tests of grain and forage crops for this section of the State; (2) rates and dates of seeding; (3) tillage methods; (4) amount of irrigation water and methods of distribution for different crops; (5) fertilizers.

The Umatilla Branch Station. The station at Hermiston is studying problems of agriculture under irrigation on the Umatilla Reclamation Project and similar lands of the Columbia River Basin. Major attention is given to: (1) the amount of water needed for irrigation of different crops and methods of irrigating; (2) varietal trials of farm crops; (3) crop rotation experiments; and (4) fertilizer experiments.

The Hood River Branch Station deals with orchard pests and horticultural problems of this important orcharding section. Experiments and demonstrations are conducted to decide upon the most satisfactory sprays and the most efficient equipment and methods of applying them to control the various orchard pests of the region. In horticulture, investigations are directed primarily to methods of pruning for different fruit crops, fertilizers for orchards, varietal tests with strawberries and potatoes, and an orchard survey of methods and costs of production.

The Sherman County Dry-Farm Branch Station. The Moro station is conducting investigations on the major problems of dry-land farming in the Columbia Basin, including: (1) varietal tests and rate and date of sowing experiments with field crops; (2) cereal breeding investigations; (3) tillage experiments; (4) soil moisture and nitrate investigations; (5) crop rotation experiments; and (6) cereal disease investigations.

The Southern Oregon Branch Station at Talent is centering attention almost wholly upon problems involved in fruit production in this important fruit-growing region. The studies under way include: (1) investigations to determine relative resistance to pear blight of all the known species of *Pyrus* and all available varieties of cultivated pears in the hope of finding suitable blight-resistant pear stocks; (2) a test orchard of pear stocks, including the principal pear stocks of France, Japan, and China to determine those most satisfactory for Southern Oregon conditions; (3) testing new varieties

of pears; (4) pear breeding experiments; (5) disinfectants for blight-control work; and (6) fertilizers for orchards.

. **The Eastern Oregon Branch Station.** The Union Station is equipped with land and buildings for experiments with both livestock and farm crops. Major attention is at present devoted to the problems of growing and feeding cattle, sheep, and hogs with comparative study of different feeds and methods of feeding. Attention is given also to varietal trials of forage and grain crops, to soil fertility problems, and to selection work with a view to crop improvement.

Extension Service

WILLIAM JASPER KERR, D.Sc., LL.D., President of the College.
PAUL VESTAL MARIS, B.Sc., Director of Extension Service; State
Leader of County Agents.
MARGARET FARQUHAR COOK, Secretary of Extension Service.

County Agricultural Agent Work

WALLACE LA DUE KADDERLY, B.Sc., Assistant State County Agent
Leader.
FRANK LLEWELLYN BALLARD, B.Sc., Assistant State County Agent
Leader.
CALVIN JEHU HURD, Assistant State County Agent Leader.

County Home Demonstration Work

JESSIE DUNLAVY McCOMB, M.S., State Home Demonstration Leader.
MARGERY MAY SMITH, S.B., Assistant in Nutrition.
ESTHER BELLE COOLEY, B.Sc., Assistant in Clothing.

Boys' and Girls' Club Work

HARRY CASE SEYMOUR, State Club Leader.
HELEN JULIA COWGILL, B.Sc., Assistant State Club Leader.
LEONARD JOHN ALLEN, M.S., State Livestock Club Leader.

Field Specialists

EDWARD BLODGETT FITTS, Professor of Dairy Husbandry, Extension
Service.
REUBEN VEERIN GUNN, B.Sc., Farm Management Specialist.
HUBERT ELMER COSBY, Extension Specialist in Poultry Husbandry.
CLAYTON LEWIS LONG, M.S., Extension Specialist in Horticulture.
HARRY ARTHUR LINDGREN, B.Sc., Extension Specialist in Animal Hus-
bandry.
NEAL CLEMENT JAMISON, B.Sc., Assistant in Dairying.
IRA NOEL GABRIELSON, A.B., United States Biological Survey Assistant
Biologist.
ALBERT SWAIN, Field Assistant in Rodent Eradication Work.

The Extension Service is one of the three great divisions of the Oregon Agricultural College, the functions of which include: resident instruction, experiment and research, and college extension.

The Extension Service is charged with the duty of extending the benefits, advantages, and available information of the College and of the United States Department of Agriculture to every portion of

the State and to all those persons who for any reason are unable to come to the College.

The Extension Service includes all forms of off-campus instruction and assistance in those subjects in the College curriculum which lend themselves to extension methods or which can be taken and adapted to the direct needs of the people of the State. The various Extension activities are the means through which information, instruction, assistance, and methods of self-help are carried to all persons who desire them at any point within the State. In brief, the Extension Service represents the medium, both independently and in hearty cooperation with all other organized forces of betterment, for enlarging and enriching the agricultural and home interests of Oregon. No county, town, hamlet, farm, or home need be without some evidence of this service.

To accomplish the objects sought, various methods are employed; namely, teaching by demonstration, giving of accurate and timely information, organization, planning for social and other recreation, and cooperating with Experiment Station and other organized forces. In a field so large, with such a multiplicity of problems and conditions, and with numerous methods of action, there is grave danger of unwise or wasteful undertakings. To prevent this the law requires the preparation of written plans for work and proposed expenditure of funds. These plans must be approved by the United States Secretary of Agriculture and by the President of the Oregon Agricultural College. These detailed plans of work are called projects. They must be approved before they are inaugurated, must be reported on at the close of each fiscal year, and when once adopted and signed cannot be altered or deviated from without the written consent of the authorities of the United States Department of Agriculture.

The several distinct lines of work now covered by written projects, from which the citizens of some portion of the State are receiving benefit, include:

(1) General Administration and Organization of the Extension Service.

(2) Printing and Distribution of Publications.

(3) Extension Schools and Meetings.

(4) County Agricultural Agent Work.

(5) Home Economics and Home Demonstration Work.

(6) Boys' and Girls' Club Work.

(7) Drainage and Irrigation.

(8) Horticulture.

(9) Animal Husbandry.

(10) Dairying.

(11) Poultry Husbandry.

- (12) Farm Crops.
- (13) Farm Management Demonstrations.
- (14) Organization and Markets.
- (15) Rodent Control.

It should not be assumed that these projects cover the only problems of importance within the State. It is the purpose to put into operation and to emphasize those lines of Extension Service that are fundamental to large and important interests of farm or home welfare, or to material agricultural development.

Importance of Extension Work in Oregon. The magnitude of the problem of College Extension in Oregon can be fully realized only by keeping in mind that the State has a population of nearly 900,000 distributed over a total area of 96,699 square miles—a territory greater than the combined areas of Illinois and Indiana and almost as great as the combined areas of New York, New Jersey, and Pennsylvania. The State, moreover, has few railroads, and in certain sections is very sparsely settled. The people who are to be reached by extension methods represent the greatest extremes in age, capacity, education, experience, and environment. Oregon's great diversity in elevation, precipitation, temperature, soil, and climatic conditions, complicates the problem of Extension Service, and makes it important in proportion to its complexity.

All persons or communities in the State wishing to make use of the assistance to which they are entitled and which will freely be given in any of the lines indicated, should communicate with the county representative of the Extension Service (County Agent, Home Demonstration Agent, or County Club Leader) direct, or with the Extension Service, Oregon Agricultural College, Corvallis, Oregon, as far as possible in advance of the time the appointment is desired. Short-notice requests may not find the College in position to render the service desired. If an Extension School is desired, particulars should be given pertaining to the time proposed, the nature of the subjects in which the community will be interested, and the plans for the meeting. If a single lecture or demonstration or exhibit is wanted, it is important to be equally prompt and explicit.

It must be remembered that while the College is eager and willing at all times to help all who apply, its staff, facilities, and funds are limited. On this account, the Extension Service is sometimes unable to give aid where it would like most to give it. Requests for instruction or other assistance, however, should not be withheld. The great majority of the State's needs have been, and generally can be, cheerfully and efficiently met.

ADMINISTRATIVE

The administrative work of the Extension Service is vested in a Director. The administrative duties consist of planning and coordinating the several lines of Extension work, dividing and assigning funds, planning the Extension campaigns, meetings, schools, conferences, demonstrations, etc., authorizing all Extension publications, planning and arranging exhibits, and supervising the prosecution of all phases of the work. Reports are required covering all lines of Extension Service and periodical reports are made to College officials and other cooperating agencies.

PUBLICATIONS

Short, practical bulletins and leaflets are issued on subjects concerning the agricultural and home interests of the State. These publications are sent out free upon request.

EXTENSION SCHOOLS AND MEETINGS

Extension schools along definite project lines are organized in various sections of the State. These schools are arranged in such way that they may continue from year to year at the same points and yet not repeat the work previously given. The length of time spent at each place is dependent upon the subject-matter to be handled in each case.

When possible, speakers are furnished local organizations through County Agents and Home Demonstration Agents in territory occupied by these agents, or direct through the Extension Service in case there is no agent in the territory. In all lecture work it is desirable both as regards economy and efficiency to arrange the work in circuits.

Judges are furnished fairs as far as this is possible with the limited staff available. Exhibits are made at a few large fairs.

All the work outlined above is arranged directly through County Agricultural Agents, Home Demonstration Agents, and other representatives of the Extension Service in the territory from which the requests are received.

COUNTY AGENT WORK

The largest branch of the Extension Service at the present time is the County Agent work. In charge of this division are the State Leader and Assistant State Leaders. Prosecuting the work through-

out the State are twenty-six County Agents, each agent being charged with the development of the agricultural interests of the county which he serves.

The work is conducted under the authorization of Section 3 of Chapter 10 of the Session Laws of Oregon for 1913. The appropriation for Extension work within a county made by a county having an area of 5,000 square miles or less is duplicated up to \$2,000.00 by State funds. In counties of larger area, the maximum duplication by State funds is \$4,000.00. The provisions of the Oregon law place the County Agent work under the direct supervision of the Oregon Agricultural College.

The County Agent is the representative of the United States Department of Agriculture, the State Agricultural College, and the county in which he is located. Through a union of these forces and working with a county organization he is able to bring the fullest measure of practical and scientific knowledge to the solution of the agricultural problems of the county and to the improvement of country life conditions.

Counties not provided with county agents and interested in securing them should correspond with the Director of Extension Service, who will render every assistance possible in explaining the plan and methods of work and necessary steps to be taken in establishing it.

HOME ECONOMICS

Extension work in Home Economics is organized, correlated, and conducted by means of public demonstrations, home demonstrations, conferences, lectures, publicity, correspondence, and otherwise, for the purpose of:

(1) Giving assistance to women with problems concerning foods, fabrics, household management, housing, and home industries.

(2) Securing adoption of approved household practices, organization, and administration.

(3) Increasing knowledge of hygiene and of home and community sanitation.

(4) Promoting the most wholesome and satisfactory living conditions.

Five counties in the State now have Home Demonstration Agents who work with the women and coordinate and apply the results of the work of the several departments of the Oregon Agricultural College, of the United States Department of Agriculture, and of other research institutions, in helping to solve the problems affecting homes and communities.

A State Leader is in charge of this branch of the Extension Service. Two assistants help the Home Demonstration Agents in the clothing and nutrition projects, and work through various organizations in counties where there are no Home Demonstration Agents.

BOYS' AND GIRLS' CLUB WORK

Junior Extension activities of the Oregon Agricultural College take the form of Club work consisting of demonstrations and judging contests among the boys and girls. Those who are interested in the basic farm and home enterprises, such as the growing of plants, the raising of animals, or the work in home economics, are encouraged to enroll for one or more Club projects

The Club projects which consist of definite work to be done at home are as follows: Corn Growing, Potato Growing, Vegetable Gardening, Poultry Raising, Pork Production, Sheep Raising, Calf Raising, Dairy Herd Record Keeping, Sewing, Cookery, Home-making, Canning, Rabbit Raising, Rural Home Beautification, and Milk Goat Raising, fifteen projects in all.

This work is organized by Clubs representing each of the above projects, being coordinated with other lines of Extension activity, including County Agricultural Agent and Home Demonstration Agent work.

The bulletins and circulars containing the lessons and instructions for each project are prepared by the Oregon Agricultural College and the United States Department of Agriculture and mailed to the local Club leader of each Club.

Help on organization, follow-up work, and training of demonstration and judging teams is given the local Club leaders by the State Leader and assistants, the County Club Agent, the County Agricultural Agent, the Home Demonstration Agent, county school superintendent, and rural school supervisor.

Prizes are offered to the winners in Club projects and contests at the local, county, State, and Interstate Club festivals and fairs. The Club members are made to see, however, that the most worthwhile prizes are the knowledge, skill, and profit that each one may derive from the work.

Club work in Oregon is maintained and supervised by the Oregon Agricultural College Extension Service in cooperation with the United States Department of Agriculture and the State Department of Education. The activities of all these agencies are led by the State Leader of Club work.

SPECIAL FIELD DEPARTMENTS

DRAINAGE AND IRRIGATION

Drainage work includes soil management subsequent to installing drains as well as drainage construction work. Assistance is given in planning drainage systems as well as through personal demonstration in the laying out of drainage systems for individuals and communities. Information is given through lectures, extension schools, personal conference, and correspondence. Assistance and advice are also given in the organization of feasible drainage districts.

Irrigation is concerned with economic use of water, handling of soils and crops under irrigation, removal of alkali by drainage, and like matters. Assistance is rendered in this work as outlined above under drainage. Design of farm distribution systems and individual pumping plants and organization of irrigation districts where feasible are among the activities of this department.

HORTICULTURE

Extension Horticulture covers the whole subject of orchard operations, including cultivation, pruning, spraying, thinning, harvesting, and marketing, laying emphasis upon the vital question of reducing the cost of producing and handling fruits.

Small fruits and vegetables have their share of attention and the improvement of the surroundings of our farm homes is emphasized as a matter of great importance.

Improvement in the quality of the exhibits of county and community fairs, better arrangements of such exhibits, and a clearer and more uniform method of classification of exhibits is a subject that is given considerable attention.

ANIMAL HUSBANDRY

Extension Animal Husbandry takes up all problems connected with the improvement of beef cattle, horses, swine, sheep, and goats. The slogan is, "Better breeding and more efficient feeding." Information is gathered from many sources and distributed throughout the State. The Extension work in Animal Husbandry is being much strengthened through the rapid accumulation of valuable livestock data by the Experiment Station at Corvallis and by the Eastern Oregon Branch Experiment Station at Union. The great diversity of conditions in various parts of the State is given due consideration and the work planned to fit the particular locality where given.

DAIRYING

Extension Dairying carries throughout the State, and helps to put into effective use, information regarding all branches of the dairy industry, such as the care and management of the herd, the raising of the calf, the treatment of diseases, the care of milk and cream, and the manufacture of dairy products. Emphasis and aid are given toward effecting dairy cooperative organizations such as Cow Testing Associations, Breeders' Associations, Bull Associations, Farmers' Cooperative Creameries, Farmers' Cooperative Cheese Factories, and Farmers' Cooperative Cream Selling Agencies.

POULTRY HUSBANDRY

Extension Poultry Husbandry covers all the branches of the poultry industry in a practical way as they apply to actual farm conditions in the State.

The work embraces such subjects as breeds and methods of breeding; feeds and methods of feeding; methods of housing and management of fowls for egg production and for market; hatching and rearing chickens; marketing of poultry and eggs. Particular attention is being given to the breeding of fowls for egg production.

Through cooperation with County Agents, special demonstrations in caponizing and in selecting and culling laying hens are made possible.

The general aim is to help poultry raisers to produce better eggs and more of them at less cost.

FARM CROPS

Farm Crops Extension work covers the bulk handling of grain, the grading and classification of grain, potatoes, hay, etc., the selection of land for cropping purposes, the preparation of soil, seed selection, planting, culture, harvest, and storage methods for grain, potatoes, beans, peas, corn, flax, and other crops and forage plants, as well as potato certification, seed inspection, crop rotation, and special crop problems. This service is given through personal advisory conferences, special demonstrations, lectures, institutes, bulletins, correspondence, and extension schools.

FARM MANAGEMENT DEMONSTRATIONS

The purpose of the department of Farm Management Demonstrations is to demonstrate to farmers, in connection with their own farms, a practical and efficient method of summarizing and analyzing a farm business as a means of measuring the profit or loss incurred

in conducting it and of deciding upon readjustments that promise to increase its net income.

In a management demonstration the business of each farm in a community is analyzed from an economic standpoint and then compared with the others to determine some of the changes which should be made in its organization to make it more profitable.

The Federal Income Tax makes necessary a more careful study of farm accounts and keeping of more accurate records. Special attention is given to meet this requirement through the farm record work and farm business analysis.

RURAL ORGANIZATION AND MARKETS

The Extension Service Bureau of Organization and Markets takes up the investigation of marketing problems which are confronting the farmers of the State. One man is in the field constantly, working with the farmers who are attempting, through organization, to better their conditions. Other members of the staff are sent out on definite organization projects, such as creamery and cheese factory organizations. It is the aim of this department to help farmers' organizations to get started in such a way as to accomplish the most good with the least possible risk and outlay.

Systematic instruction is being carried on through extension lectures, press bulletins, and personal conference covering the whole field of marketing and rural credits.

RODENT CONTROL

Work in the control of rodent pests is conducted by the Oregon Agricultural College in cooperation with the Biological Survey of the United States Department of Agriculture. The 1921 Legislature appropriated \$7,500.00 to assist in this work for the biennium 1921-1922.

Catalogue of Degrees, Honors, Students, and Enrollment

DEGREES CONFERRED JUNE 5, 1922

MASTER OF SCIENCE DEGREES

AGRICULTURE

WALTER BENO BOLLEN
Portland, Multnomah

RAYMOND LEE CORNWELL
Corvallis, Benton

BACHELOR OF SCIENCE DEGREES

AGRICULTURE

ERNEST VICTOR ABBOTT
Ashland, Jackson
ELMER EDWARD ANDERSON
Creswell, Lane
EDWIN CADWELL ANDERTON
Corvallis, Benton
BRUCE CHESLEY BEAN
San Fernando, California
CARL GEORGE BECKEN
Hillsboro, Washington
EDGAR ALWIN BIERSDORF
Portland, Multnomah
WILLIAM PLUMMER BLACK
Corvallis, Benton
CHARLES CORLEY BRAMKAMP
Fresno, California
LOUIS MERLE BRIGGS
Corvallis, Benton
PORTER AMOS BRIMMER
Rialto, California
LAURENCE BROWN
Troy, Wallowa
FRANK WESLEY BULLARD
Bullards, Coos
PAUL JONES CHAPMAN
Santa Rosa, California
ALFRED BLAKELY CLOUGH
Portland, Multnomah
CRAIG CUYLER CONDIT
Sitka, Alaska
WALTER PAGE COVELL
Corvallis, Benton
JAMES MALCOLM CRAWFORD
Fresno, California
WILLIAM FLETCHER CYRUS
Corvallis, Benton
CHARLES WARREN DAIGH
Ontario, California
ARNOLD GUSTAVE DAVIDS
Pasadena, California
ARTHUR LEWIS DICKINSON
Corvallis, Benton

HOWARD CRAPO DRAPER
Highland, California
JOHN ALBERT EIKELMAN
San Bernardino, California
KENNETH DUVAL FENDALL
Newberg, Yamhill
JAY KENNETH FORD
Union, Union
LOWELL WILLARD FULLER
Fresno, California
HENRY ERNEST GAINES
Honea Path, South Carolina
CLYDE WINDER GARST
Dayton, Ohio
RAYFIELD CHARLES GEIBERGER
Tualatin, Washington
WHITNEY GEORGE GILL
Salem, Marion
JOSEPH STORY GLOMAN
Corvallis, Benton
HAROLD CARLTON GOODALE
Anaheim, California
FERRIS MILTON GREEN
Phoenix, Arizona
FRANK WILLIAM GROVES
Lebanon, Linn
ROSHAL MERYL GROVES
Lebanon, Linn
MARY FRANCES HAIGHT
Saginaw, Lane
WILLIAM GEORGE HARPER
Corvallis, Benton
FREDERICK ELMER HARTUNG
Eugene, Lane
OSMOND JOHANN HAUGE
Woodburn, Marion
THEODORE ADOLPH HEYDEN
Pendleton, Umatilla
JOHN GLENN HOGG
Salem, Marion
VOLNEY EUGENE HOLMES
Eugene, Lane

BACHELOR OF SCIENCE DEGREES, AGRICULTURE—Continued

| | |
|--|---|
| HORACE LLEWELLYN HOPKINS Corvallis, Benton | WILLIAM MCGUIRE PERRY St. Helens, Columbia |
| RALPH FRANK JESSEN Calistoga, California | JAMES ROBERT PHILLIPS Sutherlin, Douglas |
| JOHN IVER JOHNSON* Winlock, Washington State | NORVAL HUBERT POWELL Cottage Grove, Lane |
| HOWARD GAYLOR JONES Albany, Linn | FREDERICK EARL PRICE Pomona, California |
| JACOBUS JOUBERT Stellenbosch, South Africa | ERVIN CARL REIMAN St. Maries, Idaho |
| GARDNER LEWIS KANE Gardena, California | JOSEPH ANDERSON REYNOLDS* La Grande, Union |
| JOSEPH MICHAEL KASBERGER The Dalles, Wasco | ENOS BURKE SHADE Rivera, California |
| ROBERT LELAND KEATLEY Castle Rock, Washington State | HAROLD EVERETT SHERFY Corvallis, Benton |
| KARL FRANCIS KELLOGG Eugene, Lane | CURTIS HOMER SHERWOOD Eagle Rock, California |
| MARK JAMES KELLOGG Fresno, California | GLADYS EVADNA SMITH Seattle, Washington State |
| DAVID HONORE KENNEDY* Portland, Multnomah | EDWARD BRAGDON STARKEY Prosser, Washington State |
| WILLIAM DALE KINDER Corvallis, Benton | JAMES OSCAR STEWART Ogden, Utah |
| RICHARD CARL KUEHNER Arbon, Idaho | JOSEPH LOWELL STOCKMAN Pendleton, Umatilla |
| PAUL MESSENGER LEWIS Portland, Multnomah | CHARLES WOODWARD STORZ Portland, Multnomah |
| ALFRED WALTER LOY Buena Vista, Polk | ALEXANDER GRANT SWAN San Dimas, California |
| GILBERT FRANK LOY Buena Vista, Polk | EDGAR HEARST SWANSON Forest Grove, Washington |
| HERBERT ARTHUR LUNT Corvallis, Benton | DONALD MYNARD SWARTHOUT San Bernardino, California |
| THOMAS EDWARD MABERLY Corvallis, Benton | CHARLES EVERETT TAYLOR Monroe, Washington State |
| DONALD FREDERICK MACPHERSON Pasadena, California | RICHARD THOMAS THACKER Corvallis, Benton |
| MILO THOMPSON MEANS Philomath, Benton | LEROY CLINTON THOMAS Philomath, Benton |
| MILTON MARION MILLER Corvallis, Benton | GEORGE FORDYCE WALDO Dayton, Yamhill |
| HARRY LORD MYERS Eugene, Lane | ELSWORTH YALE WATERMAN Zillah, Washington State |
| HEBER MYRON MORELAND Portland, Multnomah | HAROLD HAYNES WATKINS Kalama, Washington State |
| PAUL CLINTON NEWMAN Corvallis, Benton | WILLIAM WAXMUTH Portland, Multnomah |
| JOHN RALPH NICHOLS Palo Alto, California | MALCOLM FREDERIC WHARTON Garden Grove, California |
| JAMES ROLAND PARKER Medford, Jackson | IRLE EATON WHITE Corvallis, Benton |
| WALTER CECIL PATCHETT Berkeley, California | CELIA WILSON Portland, Multnomah |
| VINCENT MILLAR PATTERSON Eugene, Lane | ERIC WILLIAM WITT Portland, Multnomah |
| GEORGE FRANKLIN PAYNE Corvallis, Benton | |

*Degree granted at close of Summer Session, 1921.

COMMERCE

| | |
|--|---|
| MARY EMILY APPLEBY Portland, Multnomah | FRANCES IRENE JOHNSON Portland, Multnomah |
| ELMER ELLSWORTH BAGLEY Ashland, Jackson | RUTH JOHNSTON Corvallis, Benton |
| PETER THEODORE BECKMAN Ontario, Malheur | GORDON FRANCIS KELSO Junction City, Lane |
| GENEVIEVE DILLAYE BETTS Seattle, Washington State | ETHEL KNOTTS Corvallis, Benton |
| MABEL GRACE BLACK Hillsboro, Washington | JOHN HARLAND LANCE Corvallis, Benton |
| MORRIS CRAWFORD BOWKER Roseburg, Douglas | BERNICE LANE Corvallis, Benton |
| OLIVER ELLIS BROWN Corvallis, Benton | EDWARD LOUIS LARSEN Clatskanie, Columbia |
| FLORENCE BUELL Grants Pass, Josephine | CLORIN JOHN LAYTON Rathdrum, Idaho |
| HERMOGENES BARBA CARBONELL Bacnotan, Philippine Islands | DOROTHY EVELYN McDOWELL Redmond, Deschutes |
| LUCILE FANNY CASWELL Portland, Multnomah | GRACE MADELINE MABERLY Corvallis, Benton |
| VEVA MARY CHANDLER Walla Walla, Washington State | MARTIN EDWARD MALMIN St. Helens, Columbia |
| ARTHUR BISHOFF COCKRUM Ontario, Malheur | DAVID ROBERT MARR Dundee, Yamhill |
| MARY CATHERINE CROUTER Union, Union | JOHN PATRICK MASTERSON Port Orford, Curry |
| WILSON CUMMINGS Los Angeles, California | VIRGINIA MEYERHOEFFER Portland, Multnomah |
| ETHEL CUNNING Baker, Baker | WILLIAM MOHNEY Salem, Marion |
| BERKELEY ANTHONY DAVIS Santa Ana, California | HELEN MOORE Salem, Marion |
| HERBERT WEBSTER DAVIS Portland, Multnomah | DONALD WESLEY HARSH MORSE* Seattle, Washington State |
| AUGUSTUS NATHAN DENMAN Tacoma, Washington State | STEPHEN GUNDLACH NYE Medford, Jackson |
| BELVA DIXON Corvallis, Benton | ALFRED THOMAS OWSLEY La Grande, Union |
| REVA NATHEEL DONACA Albany, Linn | CLAUDE FUNSTON PALMER Portland, Multnomah |
| ETHEL FRAZIER Salem, Marion | ALTON LEROY PETERSON Culbertson, Montana |
| VERNON NEALE FREEMAN Moro, Sherman | GEORGE ARTHUR POWELL Portland, Multnomah |
| JAMES TERRENCE GAITHER Toledo, Lincoln | HAROLD WALTON READEN Gresham, Multnomah |
| LLOYD BERTRAND GREGG Salem, Marion | VIDA NELL RICH Seward, Alaska |
| SUSAN HALEY New York City, New York | LAVINA ROGERS Portland, Multnomah |
| OTTO EMERSON HATHAWAY Corvallis, Benton | GRACE REA SANDON Corvallis, Benton |
| MARJORIE GENE HENDERSON Waterville, Washington State | NICHOLAS SCHNEIDER Portland, Multnomah |
| ELIZABETH STEWART HILL Medford, Jackson | BENJAMIN FRANKLYN SCHUMAKER Portland, Multnomah |
| DAVID KENNETH IRELAND Bellingham, Washington State | ALBERT CARL SEIDL Troutdale, Multnomah |
| ORDO WILLIAM IRWIN Oakley, Kansas | MARGUERITE SHIRLEY Weiser, Idaho |
| ELLEN LOUISE JACKMAN Lynden, Washington State | CALVIN REED SMITH Bend, Deschutes |
| MILDRED JACKSON Corvallis, Benton | RAYMOND HOWARD STENBACK Summit, Benton |

*Degree granted at close of Summer Session, 1921.

BACHELOR OF SCIENCE DEGREES, COMMERCE—Continued

RICHARD BRODRICK STINSON
Portland, Multnomah
NEWTON FENTON STRAHL
Centerville, Washington
STANLEY SUMMERS
Lebanon, Linn
AMY RUTH THOMPSON
Corvallis, Benton
RUTH PLANK UTER
Woodburn, Marion

HORTENSE VAN HOLLEBEKE
Walla Walla, Washington State
MAURICE MAHANY WAKEMAN
Medford, Jackson
BESS WALCH
Portland, Multnomah
ALBERT FLAVIUS WEST
Portland, Multnomah
MYRTON LE ROY WESTERING
Portland, Multnomah

CHEMICAL ENGINEERING

CHARLES FOUNTAIN BEATIE
Oregon City, Clackamas
GUY BUTLER
Albany, Linn
PAUL HUGH EMMETT
Portland, Multnomah
HAROLD HOSTMARK GRANRUD
Tacoma, Washington State
OSCAR MARVIN HELMER
Portland, Multnomah
CLARENCE EDWARD LACHELE
Salem, Marion
ETTLEY ELSWORTH LOUGHRAY
Corvallis, Benton

OTTO BERNARD PACKARD
Santa Ana, California
LINUS CARL PAULING
Portland, Multnomah
GEORGE FREEMAN PETTENGILL
Newberg, Yamhill
ALFRED CRAWFORD ROBERTSON
Portland, Multnomah
ORLANDO ELLIOTT ROMIG
Sheridan, Yamhill
CLEMENT JOHN SHARKEY
Portland, Multnomah
WILLIAM FEAGAN TULEY
Corvallis, Benton

CIVIL ENGINEERING

OTIS ELLSWORTH ALTIMUS
Newberg, Yamhill
ALBERT BAUER
Portland, Multnomah
ANDREW JULIUS BRUGGER
Gresham, Multnomah
ELDON HOWARD COFER
Klamath Falls, Klamath
SIDNEY CERAPHA DEAN
Castle Rock, Washington State
JAMES EDWARD FITZGERALD
Corvallis, Benton
CHARLES LELAND GILDERSLEEVE
Toledo, Lincoln
GAIL ABNER HATHAWAY
Harrisburg, Linn
OTTO HENRY HERMAN
Astoria, Clatsop
WALDRON HYATT
Willamette, Clackamas
EMERY INGHAM
Portland, Multnomah
WILLIAM HUGH JONES
Portland, Multnomah
KENNETH DAYTON JOY
Portland, Multnomah

JOCK LORRAINE MACDONALD
Portland, Multnomah
ALBERT SAMUEL MURRAY
Pocatello, Idaho
MADISON NICHOLS
Salem, Marion
JOSIAH BELA PARDEE
Grants Pass, Josephine
CYRIL MALCOLM PARSONS
Bonanza, Klamath
EMORY DOUGLAS ROBERTS
Corvallis, Benton
JOE TAFF SKELTON
Corvallis, Benton
RICHARD DUDLEY SLATER
Salem, Marion
ALBERT AUGUST WALTHER
Portland, Multnomah
WILBUR HAZELTINE WELCH
Corvallis, Benton
ZINA ALEXANDER WISE *
Portland, Multnomah
CLYDE BERNARD WRIGHT
Portland, Multnomah

ELECTRICAL ENGINEERING

ROY CALVIN AVRIT
Corvallis, Benton
FRANKLIN RICHARD BECKER*
Philomath, Benton
CALVIN HARRY BILLETER
Portland, Multnomah

HOWARD ALBERT CORDELLE
Weiser, Idaho
GEORGE DREWETT
Prairie City, Grant
JOHN CLIFTON GARMAN
Portland, Multnomah

*Degree granted at close of Summer Session, 1921.

BACHELOR OF SCIENCE DEGREES, ELECTRICAL ENGINEERING—Continued

HERBERT VIRGINIUS HARRIS
Corvallis, Benton
CARL HERMANN KEIL
Cosmopolis, Washington State
JAMES RUSSELL LADD
Fort Klamath, Klamath
WILLIAM ANDREW MERRIOTT
Milwaukie, Clackamas
SIGFRED GUSTAV OLSON
Albany, Linn

WALTER DANIEL OLSON
Portland, Multnomah
CHESTER LEROY PAGE
Eddyville, Lincoln
NORMAN POWNE
Banks, Washington
EDGAR NOELL ROSER
Roseburg, Douglas
LESLIE SMITH
Corvallis, Benton

INDUSTRIAL ARTS

PAUL ALFRED BEAUFORT
Chehalis, Washington State
FRED HARTMAN BUCHANAN*
McMinnville, Yamhill

PERCY DAWE
Corvallis, Benton
WENDELL GRUBB
Halfway, Baker

MECHANICAL ENGINEERING

JOHN STEWART BRIGGS
Portland, Multnomah
JAMES SHEFFIELD CAMPBELL
Roseburg, Douglas
FRANKLIN GAGE CHAPEL
Portland, Multnomah
CECIL ALEXANDER DURETTE
Gervais, Marion
MILLER STARR FARRELL
Portland, Multnomah
NEILL DAWSON HALL
Woodburn, Marion
CLARENCE WILLIAM HARDEBECK
Dilley, Washington
VERNON WILLARD HARPER
Corvallis, Benton
FRANZ LEONARD HULTQUIST
Portland, Multnomah
TURE HAROLD JOHNSON
Woodburn, Marion
THEO JAMES LANGTON
Newberg, Yamhill
GEORGE PAUL MCNAMEE
Beaverton, Washington
DONALD JOHN MCNEIL
Portland, Multnomah

RICHARD JACOB OSTRUM
Portland, Multnomah
LESLIE ERVING POOLE
Hillsboro, Washington
HUGH RHEA
Echo, Umatilla
DICK RODGERS
Bandon, Coos
ANTHONY GEORGE SCHILLE
Portland, Multnomah
REINHOLD SCHMIDT
Grants Pass, Josephine
FLOYD LA VERN SIEGMUND
Salem, Marion
STERLING WILLIAM SMITH
Portland, Multnomah
JAMES GRANDERSON SWAGGERTY
Milwaukie, Multnomah
LESLIE PAUL THOMPSON
Corvallis, Benton
WILLIAM HERMAN TUBBESING
Portland, Multnomah
WILLIAM HENRY WELLER
Portland, Multnomah

MINING ENGINEERING

DONALD BARCHER CAMPBELL
Portland, Multnomah
CLARENCE LEWIS CHRISTIANSEN
Portland, Multnomah
GRADY DAVID EPPS
Hinton, Oklahoma
HENRY CLAY FISHER
Orchards, Washington State
DEWEY BERNARD LARSON
Portland, Multnomah
WADE VERNON LEWIS
Corvallis, Benton

FRANK CORNELIUS LINTON
Corvallis, Benton
HERVEY CROXTON LONG
Portland, Multnomah
CURTIS GILLIAM MOHNEY
Salem, Marion
PAUL KRESS RICHARDSON
Salem, Marion
GEORGE HOLLISTER ROUTLEDGE
Portland, Multnomah
JOE WOOD TIBBETTS
Portland, Multnomah

*Degree granted at close of Summer Session, 1921.

FORESTRY

| | |
|---|---|
| EARL HOYTING CHAPMAN Corvallis, Benton | WILLIAM OSBURN OWENS Raymond, Washington State |
| PAUL CHEN FUGH* Ithaca, New York | BRADLEY ADELBERT PEAVY Corvallis, Benton |
| CURTIS EDWIN GOULD Hood River, Hood River | ELIAS MORGAN PRYSE Corvallis, Benton |
| LEE STANLEY HOLMES Portland, Multnomah | LAURENCE HOWARD SMITH McMinnville, Yamhill |
| GIFFORD LAWSON OSBORNE Aurora, Marion | JOSEPH IRVINE STEEL Portland, Multnomah |
| THOMAS SILER OWENS Raymond, Washington State | |

HOME ECONOMICS

| | |
|---|---|
| EVANGELINE ACHESON Raymond, Washington State | NAOMI OLIVIA FITCH Ames, Iowa |
| IRENE FRANCES ANDERSON Newberg, Yamhill | CORA NATHALIA FORSETH Portland, Multnomah |
| HAZEL JULIA ATWOOD Corvallis, Benton | HELEN MIRIAM FREASE Corvallis, Benton |
| ETHEL OLIVE BEOUGHIER Albany, Linn | FRANCES EDITH FREITAS Corvallis, Benton |
| WINIFRED BARBARA BERG Birkenfield, Columbia | HAZEL FULKERSON Boise, Idaho |
| BESSIE MARION BIEHLER Lynden, Washington State | MARY EVELYN FULKERSON Boise, Idaho |
| CARRIE GAIL BOAK Bandon, Coos | LAURA GARNJOBST Salem, Marion |
| MABLE ELLEN BROTHERS Long Beach, California | ALICE GERTRUDE GILSTRAP Portland, Multnomah |
| ANNA MARIE BRUGGER Gresham, Multnomah | BESSIE GRAGG Corvallis, Benton |
| NATALIE BURLINGAME Sacramento, California | MILDRED HARRIET GRANT Multnomah, Multnomah |
| HAZEL OLIVIA BURSSELL Dallas, Polk | JULIA GREEN Alturas, California |
| OLLIE MAY CHANDLER Walla Walla, Washington State | AGNES IRENE GREGSON* Scio, Linn |
| IDA ARVILLA CLIFFORD Portland, Multnomah | VALBORG GRIBSKOV Junction City, Lane |
| CLARA ALIDA COLE Yacolt, Washington State | DOROTHY HARRIET HARTUNG Eugene, Lane |
| MARGARET JEANNETTE PUTMAN CRAMER Grants Pass, Josephine | KATHERINE HIGBY Forest Grove, Washington |
| FRANCES MAURINE CUMMINGS Flagstaff, Arizona | JOANN HOGSHIRE* Portland, Multnomah |
| EDNA BELLE DAVIS Inglewood, California | GRACE BONITA HOVENDEN Portland, Multnomah |
| LULO ANN DAVIS Santa Cruz, California | NORA VIOLET HUNSPERGER Corvallis, Benton |
| BERTHA EUNICE DAVOLT Kelso, Washington State | KATIE HUNTING Silver Creek, Washington State |
| KATHRYN MARGARET DIDTEL* Riddle, Douglas | LEONA JACKSON* Newberg, Yamhill |
| RUTH PHILLIPS DUNGAN Marshfield, Coos | EVANGELINE JENNINGS Salem, Marion |
| GENEVA ALICE FEIKE Portland, Multnomah | MARY GENEVIEVE JONES* Oregon City, Clackamas |
| RUTH GLADYS FERGUSON Portland, Multnomah | WINNIFRED JONES Portland, Multnomah |
| DORA ALICE FINCH Portland, Multnomah | HELEN KELLEWAY Corvallis, Benton |

*Degree granted at close of Summer Session, 1921.

BACHELOR OF SCIENCE DEGREES, HOME ECONOMICS—Continued

| | |
|--|--|
| GENIEVE KERR Corvallis, Benton | OLIVE MAE SANBORN Los Angeles, California |
| CLARA KNIPS Grants Pass, Josephine | ALMA ETHELYN SCHARPF Portland, Multnomah |
| ANNA LOUISE LUCH Vancouver, Washington State | ELIZABETH SEYMOUR Forest Grove, Washington |
| PHYLLIS ELLEN LYNE* Creston, British Columbia | VESTA ELIZABETH SHERFY Corvallis, Benton |
| MARY LORETT McCOMB Klamath Falls, Klamath | LONA MARY SIMS Corvallis, Benton |
| FERN ELVA McCROSKEY Pomona, California | HAZEL JUNE SMITH Lewistown, Montana |
| HELEN GAIL MATTLEY Oregon City, Clackamas | HUTOKA MILLER SMITH Medford, Jackson |
| ANNA AFTON MILES Salem, Marion | VIRGINIA MIDDLETON SMITH Medford, Jackson |
| MARY MAXINE MILLER Corvallis, Benton | ILA LOLETA SPAULDING Salem, Marion |
| GLADYS GRACE MILLER Portland, Multnomah | CAROLINE MARGUERITE STARKER Portland, Multnomah |
| BERNICE IRENE NELSON Corvallis, Benton | MERLE STUART Portland, Multnomah |
| CARLA MARGHRETTA NEWHOUSE The Dalles, Wasco | ESTHER SWEET Burns, Harney |
| FLORENCE EVELYN NILES Eugene, Lane | BERTHA LOIS VARNEY Corvallis, Benton |
| RUTH LOUISE PATTIN Klamath Falls, Klamath | DOLLIE DEY WAID Yakima, Washington State |
| ERMA ROWENA READEN Gresham, Multnomah | IONE WELLS Multnomah, Multnomah |
| HELEN REES Marshfield, Coos | MARTHA WIKBERG Salem, Marion |
| PEARL CRYSTAL ROSENLOF Nampa, Idaho | DORA ELMA WILCOX Ontario, California |
| VERA ROSENQUEST Salem, Marion | MARY WOODWARD Portland, Multnomah |
| FLORENCE ESTHER RYDER Albany, Linn | GEORGIANA DEET WRIGHT Union, Union |

PHARMACY

| | |
|--|--|
| MARY VINCENT HOLMES Portland, Multnomah | JOSEPHINE LUCILLE RESING* Portland, Multnomah |
| THOMAS JEFFERSON MCCAIN Corvallis, Benton | LEIB LOUNDAGIN RIGGS Salem, Marion |
| HARRY ALBERT PRATHER Klamath Falls, Klamath | SYLVIA BERYL WOODS Corvallis, Benton |
| FARRA LEROY READ Corvallis, Benton | |

VOCATIONAL EDUCATION

| | |
|--|--|
| LYNVILLE ETHRED BARTON Corvallis, Benton | GARFIELD ORR LEWIS Portland, Multnomah |
| MARJORIE MARKHAM BREWER Corvallis, Benton | DAVID CLAYBORN MOSBY Cottage Grove, Lane |
| CLARENCE LEE BUMP Corvallis, Benton | ADELBERT HENRY PRINCE Linnton, Multnomah |
| JEAN FOLSOM Pendleton, Umatilla | MARGARET MARY SULLIVAN Portland, Multnomah |
| HARRIET LOUISE FOREST Santa Maria, California | ELVIRA DOROTHY VANHOLLEBEKE Walla Walla, Washington State |
| MARY WILKINS FULLINGTON Seattle, Washington State | BERTHA LOIS VARNEY Corvallis, Benton |
| EDITH SARA GILLETTE La Verne, California | FLORENCE AGATHA WHARTON Roseburg, Douglas |

*Degree granted at close of Summer Session, 1921.

MILITARY SCIENCE AND TACTICS

STEPHEN GUNDLACH NYE
Medford, Jackson

OTHER DEGREES AND DIPLOMAS

GRADUATE IN PHARMACY

HAROLD HELMUTH ALBERS
Waluga, Clackamas
CYRIL LYNN ANDERSON
Portland, Multnomah
RUBY CARRATT
Kennewick, Washington State
GEORGE HOSE CHEADLE
Lebanon, Linn
ALTON BERTIE CLARK
Flora, Wallowa
JACK KEATING CLARKE
Victor, Montana
THEODORE EDWARD GEORGE
La Grande, Union
HENRY WILLIS GOFF
Forest Grove, Washington
SYLVIA GENEVA GOOCH
Mill City, Linn
ORAL OWAN HAGEDORN
Salem, Marion

MORTON HERMAN HANSEN
Junction City, Lane
GLENN ROBERT HARDEN
Corvallis, Benton
VERA SEFFERT HENDERSON
Corvallis, Benton
THOMAS JEFFERSON MCCAIN
Corvallis, Benton
DAVID ADOLPH NELSON
St. Maries, Idaho
HARRY ALBERT PRATHER
Klamath Falls, Klamath
WILLIAM JOHN RALSTON
Corvallis, Benton
FARRA LEROY READ
Corvallis, Benton
LEIB LOUNDAGIN RIGGS
Salem, Marion
ROSCOE CONKLING THORESON
Jerome, Idaho

PHARMACEUTICAL CHEMIST

ARTHUR ANDREW BORGESON
Portland, Multnomah
JOHN MAXWELL BOWERSOX
Monmouth, Polk
ERLING BRAUTI
Toledo, Lincoln
CLIFFORD OLIVER DAUE
Salem, Marion
MARGARET MAE GORRIE
Springfield, Lane

MARC BURDETTE JARMIN
Albany, Linn
RONALD ANTHONY MCBRIDE
Portland, Multnomah
FRANCES NICHOLSON
Puyallup, Washington State
JAMES LARSON PORTER
Ashland, Jackson
NICHOLAS RICHMOND STANSSELL
Eugene, Lane

DIPLOMA, SCHOOL OF MUSIC

VOLNEY WILLIAM SHEPARD
Corvallis, Benton

DOROTHEA MARIE WOLFKEN
Corvallis, Benton

HONORS AND PRIZES
SENIOR HONOR STUDENTS

Senior honors are conferred by the College Council upon those members of the graduating class who have maintained throughout their entire college course the highest scholastic standing in their department. No student is eligible to this honor unless his general average for all subjects has been eighty-five percent or higher. Election is limited to ten percent of the graduating members of a department.

Selections for June, 1922:

SCHOOL OF AGRICULTURE

ERNEST VICTOR ABBOTT
ELMER EDWARD ANDERSON
EDGAR ALVIN BIERSDORF
KENNETH DUVAL FENDALL
FERRIS MILTON GREEN

FREDERICK ELMER HARTUNG
JOHN GLENN HOGG
JOSEPH MICHAEL KASBERGER
EDGAR HEARST SWANSON
DONALD MYNARD SWARTHOUT

SCHOOL OF HOME ECONOMICS

HAZEL OLIVIA BURSELL
 MARGARET JEANNETTE PUTMAN
 CRAMER
 BERTHA EUNICE DAVOLT
 GENEVA ALICE FEIKE

CORA NATHALIA FORSETH
 ALICE GERTRUDE GILSTRAP
 WINNIFRED JONES
 GLADYS GRACE MILLER
 ALMA ETHELYN SCHARPF

SCHOOL OF COMMERCE

PETER THEODORE BECKMAN
 MORRIS CRAWFORD BOWKER
 WILSON CUMMINGS
 REVA NATHEEL DONACA

VIRGINIA MEYERHOEFFER
 HAROLD WALTON READEN
 HORTENSE VAN HOLLEBEKE

SCHOOL OF ENGINEERING

ALBERT BAUER
 JOHN CLIFTON GARMAN
 CHARLES LELAND GILDERSLEEVE

THEO JAMES LANGTON
 NORMAN POWNE
 DICK ROGERS

SCHOOL OF MINES

DEWEY BERNARD LARSON

DEPARTMENT OF CHEMICAL ENGINEERING

LINUS CARL PAULING

SCHOOL OF PHARMACY

MARY VINCENT HOLMES

SCHOOL OF VOCATIONAL EDUCATION

FLORENCE AGATHA WHARTON

SCHOOL OF FORESTRY

JOSEPH IRVINE STEEL

MUSIC

VOLNEY WILLIAM SHEPARD

THE CLARA H. WALDO PRIZE

(See page 67)

Senior Women

First Honor—

MARGARET JEANNETTE PUTMAN
 CRAMER

Honorable Mention—

GLADYS GRACE MILLER
 GENEVA ALICE FEIKE

Junior Women

First Honor—

EDNA HORTENSE READEN

Honorable Mention—

ANITA KENNEDY DAVIS
 JENNIE THERESA NORENE

Sophomore Women

First Honor—

LILLY MAGNHILD NORDGREN

Honorable Mention—

MARIE MARGARET TONSETH
 ANN LAVILLA MCPHERSON

Freshman Women

First Honor—

LOTTIE MORRIS

Honorable Mention—

BERTHA SCHUMACHER
 HELEN HUMPHREY

THE A. J. JOHNSON PRIZE

(See page 67)

Senior Men

First Honor—

HAROLD WALTON READEN

Honorable Mention—

FREDERICK EARL PRICE

MYRTON LE ROY WESTERING

Sophomore Men

First Honor—

PAUL LA FRONE MAGILL

Honorable Mention—

DWIGHT LYMAN MCCAW

ROBERT ALBERT HADLEY

Junior Men

First Honor—

JOHN BILLINGS ALEXANDER

Honorable Mention—

GRANT OBERLIN HYLANDER

PERCY PHILLIP LOCEY

Freshman Men

First Honor—

ROBINSON CROCKETT JENNER

Honorable Mention—

DONALD DAVID HILL

CHARLES CLAUDIUS CHRISTIANSEN

THE JOSEPH H. ALBERT PRIZE

(See page 67)

HORTENSE VAN HOLLEBEKE

MOUNTAIN STATES POWER COMPANY PRIZE

This prize, offered by the Mountain States Power Company, is a silver loving cup presented to the senior man who during his entire college career has maintained a high standard of scholarship and manhood and has excelled in athletics.

JOSEPH MICHAEL KASBERGER

THE J. M. DICKSON SCHOLARSHIP

(See pages 67-68)

CLAY CARL MILLER

MILITARY COMMISSIONS, 1921-22

Students recommended for commissions in the Officers' Reserve Corps, United States Army:

Infantry

ERNEST VICTOR ABBOTT
ELMER EDWARD ANDERSON
ELMER ELLSWORTH BAGLEY
CHARLES FOUNTAIN BEATIE*
MORRIS CRAWFORD BOWKER
PAUL JONES CHAPMAN
WENDELL DENLINGER
JAMES TERRENCE GAITHER
RALPH HERBERT GOODALE
ROSHAL MERYL GROVES
FREDERICK ELMER HARTUNG
EDWARD LOUIS LARSEN
CLORIN JOHN LAYTON

FRANK CORNELIUS LINTON
ALFRED WALTER LOY
HOMER DEWITT MILLER
GEORGE ARTHUR POWELL*
HARRY ALBERT PRATHER
HAROLD EVERETT SHERFY
EDWARD BRAGDON STARKEY
RICHARD BRODRICK STINSON
DONALD MYNARD SWARTHOUT
EDWARD JOHN WATERHOUSE
HAROLD HAYNES WATKINS
ALBERT FLAVIUS WEST

*Commissions received during college year.

Corps of Engineers

ALBERT BAUER
 JAMES DOUGLAS BELL
 JAMES SHEFFIELD CAMPBELL
 FRANK CLOUGH
 BERTRAM GALE DICK
 JOHN CLIFTON GARMEN
 HAROLD HOSTMARK GRANRUD
 JOSEPH GRAY
 KENNETH EARLE HAMBLIN
 LEE STANLEY HOLMES
 WILLIAM HUGH HONES
 FRANZ LEONARD HULTQUIST

EMERY INGHAM
 HERVEY CROXTON LONG
 CURTIS GILLIAM MOHNEY
 WALTER DANIEL OLSON
 IRVING CLIFFORD ROBERTS
 GEORGE HOLLISTER ROUTLEDGE
 WILLARD DEWEY SIMPSON
 JOE TAFF SKELTON
 ALBERT AUGUST WALTHER
 WILBUR HAZELTON WELCH
 WILLIAM HENRY WELLER

Field Artillery

PORTER AMOS BRIMMER
 CARVEL CHURCHMAN CAMPBELL
 DONALD BARCHER CAMPBELL
 ALFRED BLAKELY CLOUGH
 ELDON HOWARD COFER
 ARNOLD GUSTAVE DAVIDS
 WAYNE KEITH DAVIS
 SMITH WEED DOBSON
 THEODORE PETER DYKSTRA
 ALBIN LEROY EKSTROM
 PAUL HUGH EMMETT
 RAYFIELD CHARLES GEIBERGER
 NEILL DAWSON HALL
 OSCAR MARVIN HELMER
 THEODORE ADOLPH HEYDEN
 VOLNEY EUGENE HOLMES
 ORDO WILLIAM IRWIN
 WILLIAM DALE KINDER
 RICHARD CARL KUEHNER
 JAMES RUSSELL LADD
 THOMAS CHARMAN LOVETT
 HERBERT ARTHUR LUNT
 THOMAS EDWARD MABERLY
 DONALD FREDERICK MACPHERSON
 THOMAS JEFFERSON MCCAIN
 PAUL CLINTON NEWMAN

MADISON NICHOLS
 HERBERT JULIUS OLSEN
 ALFRED THOMAS OWSLEY
 CLAUDE FUNSTON PALMER
 JAMES ROLAND PARKER
 GEORGE DARWIN PEAVY
 WILLIAM MCGUIRE PERRY
 ERVIN CARL REIMAN
 PAUL KRESS RICHARDSON
 HERMAN MATHIAS RITTER
 ALFRED CRAWFORD ROBERTSON
 GLENN ODELL RUSHER
 BENJAMIN FRANKLYN SCHUMACHER
 FLOYD LA VERNE SIEGMUND
 RICHARD DUDLEY SLATER
 LESLIE SMITH
 LEWIS SMITH
 STERLING WILLIAM SMITH*
 LESLIE PAUL THOMPSON
 WILLIAM FEAGAN TULEY
 MAURICE MAHANY WAKEMAN
 GEORGE FORDYCE WALDO
 WILLIAM WAXMUTH
 RALPH ALVIN WESTERING
 CLYDE BERNARD WRIGHT

Quartermaster Corps (Motor Transport Section)

IVER AHLKOG
 JOHN STEWART BRIGGS
 KENNETH DUVAL FENDALL
 CLARENCE WILLIAM HARDEBECK
 CLARENCE EDWARD LACHELE
 DONALD JOHN MCNEIL
 HEBER MYRON MORELAND

LEANDER CHARLES MORSE
 STEPHEN GUNDLACH NYE*
 WALTER CECIL PATCHETT
 NORMAN POWNE
 HUGH RHEA
 CECIL JOSEPH SCOLLARD

Cavalry

CLYDE ANDERSON BURCHAM
 VERNON WILLARD HARPER
 WILLIAM GEORGE HARPER
 GARDNER LEWIS KANE
 GORDON FRANCIS KELSO

JEROME NICK
 ALTON LE ROY PETERSON
 FARRA LEROY READ
 ELSWORTH YALE WATERMAN

*Commissions received during college year.

CATALOGUE OF STUDENTS

(The following abbreviations are used to indicate the curriculum in which the student is registered and the classification within the curriculum: Agri., Agriculture; C. E., Civil Engineering; Com., Commerce; H. Ec., Home Economics; E. E., Electrical Engineering; For., Forestry; Ch.E., Chemical Engineering; L. E., Logging Engineering; H. E., Highway Engineering; I. E., Irrigation Engineering; I. A., Industrial Arts; M. A., Mechanic Arts; M. E., Mechanical Engineering; Mines, Mining Engineering; Phar., Pharmacy; Fr., Freshman; Soph., Sophomore; Jr., Junior; Sr., Senior; Voc., Vocational; Opt., Optional; Spec., Special.)

GRADUATE STUDENTS

| <i>Name</i> | <i>Curriculum</i> | <i>Home Address</i> |
|-----------------------------|-------------------|---------------------|
| Absher, Albert | Agri. | Corvallis |
| Adams, Russell M. | Voc.Ed. | Seattle, Wash. |
| Allen, Ethel E. | H.Ec. | Corvallis |
| Atwood, Alice Lillian | H.Ec. | Corvallis |
| Baldwin, James Daniel | Voc.Ed. | Blue Lakes, Cal. |
| Bollen, Walter Beno | Agri. | Portland |
| Bryant, Claude Hale | Voc.Ed. | Gaston |
| Cornwell, Raymond Lee | Agri. | Corvallis |
| Covell, Walter Page | Agri. | Corvallis |
| Crosswhite, John R. | Agri. | Corvallis |
| Damon, Robert Elbridge | Voc.Ed. | Halsey |
| Davis, Lulo Ann | H.Ec. | Big Rock, Ill. |
| Doxee, Earl De Witt | Voc.Ed. | Corvallis |
| Epling, Carl Clouson | Agri. | Redondo Beach, Cal. |
| Knowlton, Frank Lester | Agri. | Laurel, Md. |
| Manjonon, Algardro | Ch.E. | Philippines |
| Middlekauff, Ruth Helen | H.Ec. | Corvallis |
| Miller, Mrs. Dorcas Elliott | H.Ec. | Portland |
| Nichols, Benjamin Hodge | E.E. | Cedrona Bay, Wash. |
| Orr, George D. | Agri. | Corvallis |
| Owen, Forrest Vern | Agri. | Ogden, Utah |
| Oyler, Sehrman Grant | Agri. | Wilber, Neb. |
| Parsons, Cyril Malcolm | C.E. | Bonanza |
| Parsons, Walton W. | Phar. | Portland |
| Renner, Frederic George | Agri. | Wenatchee, Wash. |
| Reynolds, Joe A. | Agri. | La Grande |
| Robinson, Irene | H.Ec. | Forest Grove |
| Spencer, Mildred Jeanette | Agri. | Seattle |
| Taylor, Kenneth S. | Agri. | Mexico |
| Vancil, Esther Louise | Voc.Ed. | Portland |
| Wilson, Heston L. | Agri. | Hemet, Cal. |

UNDERGRADUATE STUDENTS

| <i>Name</i> | <i>Curriculum</i> | <i>Home Address</i> |
|--------------------------|-------------------|---------------------|
| Aalvik, Roy | M.E. Soph. | Stevenson, Wash. |
| Abadie, Valentine | Agri. Voc. | Standpoint, Idaho |
| Abbett, Gilbert Werley | E.E. Sr. | Portland |
| Abbott, Ernest Victor | Agri. Sr. | Ashland |
| Abelgore, Charles Alonzo | I.A. Spec. | Corvallis |
| Aberg, John A. | Agri. Voc. | Doe Bay, Wash. |
| Abraham, Gaylor Bryan | E.E. Soph. | Corvallis |
| Abraham, John Theodore | Phar. Jr. | Roseburg |
| Abraham, Ray Leonard | Phar. Sr. | Corvallis |
| Acheson, M. Evangeline | H.Ec. Sr. | Raymond, Wash. |
| Ackerman, Frank Daniel | Phar. Fr. | Seaside |
| Ackerman, Glenn Chester | Com. Jr. | Salem |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|---------------------|
| Ackley, Kenneth Justice | Agri. | Soph. | Chapman |
| Adams, Clara E. | H.Ec. | Soph. | Corvallis |
| Adams, Herbert Ernest | Agri. | Fr. | Carlotta, Cal. |
| Adams, James Arthur | Mines | Sr. | Corvallis |
| Adams, Marjorie Grace | Com. | Fr. | Portland |
| Adams, Martin V. | Agri. | Voc. | Mt. Vernon |
| Adams, Ofa Mabel | H.Ec. | Fr. | Molalla |
| Adamson, Esther | H.Ec. | Soph. | Prineville |
| Adamson, Helen Esther | H.Ec. | Soph. | Talent |
| Adamson, Ruth | H.Ec. | Soph. | Prineville |
| Adkins, Charles Misner | For. | Voc. | Corvallis |
| Ady, Aard | M.E. | Fr. | Merrill |
| Agonias, Eusebio Malvar | Mines | Fr. | Philippine Islands |
| Ahlskog, Iver | E.E. | Jr. | Raymond, Wash. |
| Aikins, Edward Leroy | M.E. | Jr. | Roseburg |
| Ainsworth, Ollie K. | For. | Voc. | Murphy |
| Albaugh, Reuben | Agri. | Fr. | Pittville, Cal. |
| Albert, Arthur Lemuel | E.E. | Jr. | Jefferson |
| Albright, George Frank | Phar. | Soph. | Portland |
| Alcorn, James L. | C.E. | Soph. | Corvallis |
| Alcorn, Waldo Alexander | Agri. | Sr. | Sitka, Alaska |
| Alcorn, Wm. Vernon | C.E. | Spec. | Corvallis |
| Aldrich, Horace Burton | Agri. | Soph. | The Dalles |
| Aldrup, Earl Wm. | E.E. | Soph. | Corvallis |
| Alexander, Clyde Murrell | Agri. | Sr. | Dalkena, Wash. |
| Alexander, Edith | Com. | Soph. | Chehalis, Wash. |
| Alexander, Florence M. | Voc.Ed. | Jr. | Chehalis, Wash. |
| Alexander, John Billings | C.E. | Jr. | Corvallis |
| Alexander, Ray Edgar | Com. | Fr. | Corvallis |
| Alexander, Spencer Wheeler | Com. | Fr. | Waterville, Wash. |
| Alexander, Sara M. | Com. | Soph. | Chehalis, Wash. |
| Alford, Max L. | Com. | Jr. | Salem |
| Alford, Sara | H.Ec. | Voc. | Salem |
| Aliaga, John de | Agri. | Soph. | Lima, Peru |
| Allard, Ferne Beatrice | Com. | Voc. | Portland |
| Allcock, Theresa M. | H.Ec. | Jr. | Ontario, Cal. |
| Allen, Anderson | Agri. | Voc. | Corvallis |
| Allen, Edna Josephine | H.Ec. | Soph. | La Grande |
| Allen, Franklin Ellis | I.A. | Spec. | Corvallis |
| Allen, Genevieve Edith | H.Ec. | Voc. | Portland |
| Allen, Grace Lillian | Com. | Soph. | La Grande |
| Allen, Leo C. | E.E. | Soph. | Sheridan |
| Allen, Marvelle Wright | C.E. | Soph. | Portland |
| Allen, Maude Marie | H.Ec. | Fr. | Mabel |
| Allen, Ona Etta | H.Ec. | Fr. | Corvallis |
| Allen, Sam S. | For. | Jr. | Portland |
| Allen, Thomas Cort | Agri. | Spec. | Pasadena, Cal. |
| Allen, Wayne George | Phar. | Soph. | Salem |
| Allison, Arthur George | Agri. | Fr. | Amity |
| Allison, Gertrude Valentine | Com. | Soph. | Tacoma, Wash. |
| Allyn, Whitney Cox | Com. | Soph. | Grants Pass |
| Alter, Harry Meacham | Agri. | Jr. | Ontario, Cal. |
| Altimus, Otis | C.E. | Sr. | Newberg |
| Amick, Tina Bell | Com. | Fr. | Corvallis |
| Armine, Edgar Simpson | Agri. | Jr. | Vermont, Ill. |
| Anderson, Alfred Arvid | I.A. | Spec. | Astoria |
| Anderson, Adres A. | Agri. | Voc. | Hillsboro |
| Anderson, Charles Harvey | M.A. | Voc. | Hanford, Cal. |
| Anderson, Clarence O. | Phar. | Soph. | Portland |
| Anderson, Cyril Lynn | Phar. | Soph. | Portland |
| Anderson, Donald Nelson | For. | Soph. | Santa Ana, Cal. |
| Anderson, Edith Theodora | Com. | Jr. | Portland |
| Anderson, Eline Bertha | Com. | Jr. | Portland |
| Anderson, Elizabeth Viola | Com. | Fr. | Portland |
| Anderson, Ella Felecia | H.Ec. | Jr. | Grants Pass |
| Anderson, Ellen Violet | Com. | Fr. | Portland |

UNDERGRADUATE STUDENTS

483

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|----------------------|
| Anderson, Elmer Edward | Agri. | Sr. | Creswell |
| Anderson, Frank Elmer | Phar. | Spec. | Medford |
| Anderson, Grace A. R. | H.Ec. | Fr. | Albany |
| Anderson, Irene Frances | H.Ec. | Sr. | Newberg |
| Anderson, Jessie May | H.Ec. | Fr. | Portland |
| Anderson, Mildred Amelia | Com. | Fr. | Portland |
| Anderson, Myron Ivan | M.A. | Voc. | Hayward, Cal. |
| Anderson, Oliver Gladstone | M.E. | Jr. | Ashland |
| Anderson, Oscar Eugene | Com. | Jr. | Linnton |
| Anderson, Roy Elmer | E.E. | Jr. | Portland |
| Anderson, Rupert Wallace | Mines | Jr. | Portland |
| Anderson, Ruth Lucinda | H.Ec. | Fr. | Salem |
| Anderson, Theodore Bernard | M.E. | Fr. | Hammond |
| Anderton, Ed. C. | Agri. | Sr. | Corvallis |
| Anderton, George Henry | M.A. | Voc. | Mondamin, Iowa |
| Andresen, Helen | Com. | Fr. | Oregon City |
| Andrew, Walter Silas | Agri. | Voc. | Corvallis |
| Andrews, Charles Luther | E.E. | Jr. | Oregon City |
| Andrews, Helen Elizabeth | H.Ec. | Fr. | Portland |
| Andrews, Helen Mar | Com. | Fr. | Seattle, Wash. |
| Andrews, Leonard Aaron | Agri. | Voc. | Corvallis |
| Andrews, Jesse Varon | Com. | Jr. | La Grande |
| Angier, Edwin Baldwin | Agri. | Soph. | Van Nuys, Cal. |
| Angle, Frank Cecil | M.E. | Jr. | Portland |
| Anglin, Jacob Floyd | Agri. | Voc. | Corvallis |
| Angus, Beatrice Helen | H.Ec. | Fr. | Corvallis |
| Annala, Elmer Howell | M.A. | Voc. | Hood River |
| Annin, Vivien Mae | Com. | Soph. | Myrtle Point |
| Anstensen, Bertha Matilda | Com. | Fr. | Anacortes, Wash. |
| Anstey, Eleanor Marie | H.Ec. | Fr. | Portland |
| Antonio, Eulogio Arciago | Mil. | Soph. | Philippine Islands |
| Antonio, Pio A. | Com. | Fr. | Philippine Islands |
| Appleby, Mary Emily | Com. | Sr. | Portland |
| Applegreen, Erskine Clarence | Agri. | Voc. | Seattle, Wash. |
| Applegren, Fredrik W. | Agri. | Soph. | Portland |
| Archibald, Glen Allison | E.E. | Jr. | Corvallis |
| Archibald, Royal Wallace | C.E. | Soph. | Albany |
| Arciago, Arcadio Isla | Phar. | Soph. | Philippine Islands |
| Areola, Cecilio Carbonell | Agri. | Jr. | Philippine Islands |
| Armstrong, Albert Le Roy | E.E. | Spec. | Corvallis |
| Armstrong, Jessie H. | H.Ec. | Fr. | North Bend |
| Armstrong, John Ralph | Ch.E. | Jr. | Oregon City |
| Armstrong, Joseph Albert | C.E. | Jr. | Patterson, N. J. |
| Armstrong, Lois Bertha | Voc.Ed. | Jr. | Salem |
| Arnez, Felix F. | Phar. | Jr. | Cochabambia, Bolivia |
| Arnold, Arthur Kennth | For. | Soph. | San Francisco, Cal. |
| Arnold, Sarah Louise | H.Ec. | Spec. | Brockton, Mass. |
| Arnoldus, Anna Marie | H.Ec. | Jr. | Summerville |
| Arstill, Wade Arstill | M.A. | Voc. | Dallas |
| Asbury, Lillie Roena | Com. | Soph. | McMinnville |
| Ash, Charles | Com. | Soph. | La Grande |
| Ash, Julian S. | Com. | Soph. | La Grande |
| Asher, A. Elton | Com. | Jr. | Portland |
| Ashton, Dan Lester | Com. | Jr. | Tangent |
| Astrup, Mark Henry | Agri. | Spec. | Seattle, Wash. |
| Atkinson, Bessie | H.E. | Spec. | Portland |
| Atwood, Hazel Julia | H.Ec. | Sr. | Corvallis |
| Auld, Ella Margaret | Com. | Fr. | Portland |
| Austin, Kirby Burdette | E.E. | Fr. | Sheridan, Wyo. |
| Austin, Lawrence Wesley | M.E. | Soph. | Salem |
| Averill, Linn | Agri. | Soph. | Corvallis |
| Avey, John Alexander | Com. | Soph. | Elma, Wash. |
| Avrit, Carl Jesse | Agri. | Soph. | Corvallis |
| Avrit, Roy Calvin | E.E. | Sr. | Corvallis |
| Axland, William | Com. | Soph. | Aberdeen, Wash. |
| Ayers, Ethel | H.Ec. | Spec. | Corvallis |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|------------------------|
| Azevedo, Eldon Francis | Agri. | Spec. | Corning, Cal. |
| Babb, Bert Graydon | Agri. | Sr. | Eugene |
| Babcock, Alice Elizabeth | Com. | Fr. | Warmspring |
| Babcock, Carolynne Amelia | Com. | Soph. | Salem |
| Bacher, Fred August | For. | Fr. | Corvallis |
| Bacher, Solange | H.Ec. | Spec. | Corvallis |
| Backman, John Emil | Agri. | Sr. | Marshfield |
| Bacon, Leonard James | I.A. | Spec. | Corvallis |
| Bade, Alfred Herman | Com. | Voc. | Portland |
| Badura, George J. | Com. | Jr. | Portland |
| Bagley, Ambree William | Agri. | Soph. | Salem |
| Bagley, Elmer Ellsworth | Com. | Sr. | Ashland |
| Bailey, Clarke Edward | Com. | Jr. | Portland |
| Bailey, Hullard Martin | Phar. | Jr. | Portland |
| Bailey, Merle P. | E.E. | Soph. | Boise, Idaho |
| Bailey, Oscar Andall | Agri. | Voc. | Ferndale, Wash. |
| Bailey, Truman Estee | | Opt. | Portland |
| Bain, Alice Patricia | Com. | Soph. | Portland |
| Bain, Daisy Blanche | H.Ec. | Jr. | Medford |
| Baines, Elizabeth Louise | Com. | Soph. | Portland |
| Baines, John R. | E.E. | Fr. | Portland |
| Baird, Fred Joseph | Agri. | Fr. | Corvallis |
| Baird, Vero Wm. | Phar. | Fr. | Richland |
| Baisley, Wm. D. | For. | Fr. | San Jacinto, Cal. |
| Baker, Mae Florence | Com. | Voc. | Portland |
| Baker, Hildred | H.Ec. | Fr. | Portland |
| Baker, Rufus William | Agri. | Sr. | Oregon City |
| Baker, Thomas C. | Agri. | Jr. | Pilot Rock |
| Baker, Wm. Jennings | For. | Fr. | Independence |
| Balderree, Elmer Wendall | For. | Sr. | Dallas |
| Balderree, Robert Grant | For. | Fr. | Dallas |
| Baldwin, Lucile Eileen | | Opt. | Albany |
| Ball, Hazel | H.Ec. | Soph. | Fossil |
| Ball, Lee Cleveland | Com. | Spec. | Corvallis |
| Ballf, Myrtle Margaret | Com. | Fr. | Roseburg |
| Ballheim, Dorothy Maude | H.Ec. | Soph. | Portland |
| Ballin, Ralph Roderick | Agri. | Soph. | Portland |
| Bancroft, Georgia Marie | Com. | Voc. | Oregon City |
| Banes, Virginia Mary | Com. | Fr. | Portland |
| Banks, Rex Goodrich | Agri. | Soph. | Riverside, Cal. |
| Rannister, Irene | Voc.Ed. | Soph. | Weston |
| Bareinger, Francis Clarence | M.E. | Fr. | Corvallis |
| Barendse, Albert | M.A. | Voc. | Brownsmead |
| Barhyte, Catherine Ellen | Voc.Ed. | Soph. | Salem |
| Barlow, Floyd Lincoln | Agri. | Voc. | Heppner |
| Barlow, Grace Mary | H.Ec. | Jr. | Portland |
| Barnard, Albert Charlson | Com. | Spec. | Roseburg |
| Barnes, Franklin Lockwood | Com. | Jr. | San Diego, Cal. |
| Barnes, Mrs. Georgia | Agri. | Spec. | Corvallis |
| Barnes, Katie Mildred | Com. | Spec. | Corvallis |
| Barnes, Walter P. | Agri. | Spec. | Port Townsend, Wash. |
| Barnett, Clair Archie | M.E. | Fr. | The Dalles |
| Barratt, Helen Constance | H.Ec. | Jr. | Heppner |
| Barrett, Leo Donald | Phar. | Fr. | Ontario |
| Barrow, William Harry | Phar. | Fr. | Grants Pass |
| Bartelt, Arthur Bernard | Agri. | Voc. | Corvallis |
| Bartholomy, Lester John | Agri. | Jr. | Drain |
| Bartholomy, Oliver C. | Com. | Spec. | Portland |
| Barton, Carlton Claudius | For. | Fr. | Croydon, New Hampshire |
| Barton, Edwin | E.E. | Fr. | Corvallis |
| Barton, Lynville E. | Voc.Ed. | Sr. | Corvallis |
| Bartow, Amy Frances | H.Ec. | Fr. | Drain |
| Barzee, Wilma A. | Com. | Soph. | Corvallis |
| Bast, Mildred Marie | H.Ec. | Voc. | Corvallis |
| Bates, Estelle M. | H.Ec. | Jr. | Corvallis |
| Bates, Jean | Voc.Ed. | Jr. | Portland |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|---------------------|
| Bathgate, Kenneth | E.E. | Fr. | Orange, Cal. |
| Batthey, Nixon Waterman | Agri. | Voc. | Dryden, Wash. |
| Bauer, Albert | C.E. | Sr. | Portland |
| Bauer, Marian E. | H.Ec. | Soph. | Corvallis |
| Baugh, Allyn Ray | Com. | Soph. | Monterey, Cal. |
| Baumgartner, John Albert | C.E. | Jr. | Milwaukie |
| Baxter, Jessie H. | Com. | Spec. | Portland |
| Baxter, Thomas Francis Jr. | Agri. | Jr. | Stockton, Cal. |
| Baxter, Wendall | M.A. | Voc. | Portland |
| Baybrook, Harold William | Agri. | Soph. | Linnton |
| Bayley, Katharine | H.Ec. | Fr. | The Dalles |
| Bayne, Albert Edward | Phar. | Fr. | Salem |
| Bayne, Albert Leslie | Phar. | Fr. | Shedds |
| Bayne, Mary Elizabeth | Voc.Ed. | Jr. | Salem |
| Beakey, John Sandford | C.E. | Soph. | Portland |
| Beals, Ernest Leslie | Com. | Fr. | Corvallis |
| Bean, Bruce Chesley | Agri. | Sr. | San Fernando, Cal. |
| Bean, Dorothy Del | Com. | Fr. | Riverton |
| Bear, Earl Charles | Agri. | Voc. | Turner |
| Beard, Harold W. | Com. | Soph. | Corvallis |
| Beard, Lois | Com. | Soph. | Corvallis |
| Beatie, Alford | Voc.Ed. | Fr. | Oregon City |
| Beatie, Charles Fountain | Ch.E. | Spec. | Oregon City |
| Beatie, John Myers | Com. | Soph. | Oregon City |
| Beatty, M. Edwin | Mines | Jr. | Portland |
| Beatty, Ouray Ralston | E.E. | Jr. | Brownsville |
| Beaufort, Paul | I.A. | Sr. | Chehalis, Wash. |
| Bechtel, Harold Monroe | Phar. | Spec. | Ashland |
| Becken, Carl George | Agri. | Sr. | Hillsboro |
| Becker, Florence C. | H.Ec. | Jr. | Corvallis |
| Becker, Gilbert Douglas | M.A. | Voc. | Portland |
| Becker, Jane | H.Ec. | Fr. | Portland |
| Becker, Nona | Com. | Jr. | Portland |
| Beckley, Alma Theresa | Com. | Jr. | Portland |
| Beckley, Willard C. | M.E. | Fr. | Santa Paula, Cal. |
| Beckman, Peter Theodore | Com. | Sr. | Ontario |
| Beckwith, Arthur Sunderland | Com. | Soph. | Portland |
| Beckwith, Clarence Elmo | Agri. | Voc. | Olympia, Wash. |
| Bedell, Florence | Com. | Soph. | Alsea |
| Bedynek, John | I.A. | Soph. | Corvallis |
| Beebe, Belya Edna | Com. | Fr. | Dallas |
| Beeler, Bernadine G. | Com. | Jr. | The Dalles |
| Beers, Nelson Homer | Agri. | Fr. | Reed |
| Begg, Ellis Loche | E.E. | Jr. | John Day |
| Begg, Roderich Ellis | Agri. | Soph. | John Day |
| Begg, Ronald Charles | Ch.E. | Fr. | John Day |
| Begue, Philip | For. | Fr. | Los Angeles, Cal. |
| Behnke, Fred G. | Com. | Fr. | Yakima, Wash. |
| Behrens, Agnes Margaret | H.Ec. | Soph. | San Diego, Cal. |
| Belknap, Jess Willard | M.E. | Soph. | Polson, Mont. |
| Bell, Don Adair | C.E. | Spec. | Beaver |
| Bell, Grace Helen | H.Ec. | Spec. | Corvallis |
| Bell, Howard Elwood | E.E. | Soph. | Gardena, Cal. |
| Bell, James Douglas | C.E. | Jr. | Pioneer |
| Bell, Jessie Mary | Com. | Soph. | Pendleton |
| Bell, Percy Bailey | Ch.E. | Fr. | Pasco, Wash. |
| Bell, Vera Margaret | Com. | Fr. | Corvallis |
| Belmore, Ralph Westley | E.E. | Jr. | Portland |
| Belt, William Edward | Com. | Jr. | Newport |
| Beltz, Daphne | Com. | Fr. | Pendleton |
| Benedict, Albert Veness | Phar. | Spec. | Hermiston |
| Benedict, Phyllis Grace | H.Ec. | Fr. | Albany |
| Benedict, Warren Vincent | For. | Soph. | Hoquiam, Wash. |
| Benedict, William Ray | Agri. | Jr. | Beverly Hills, Cal. |
| Bennett, Earl | Com. | Fr. | Portland |
| Bennett, Gertrude Mayo | Voc.Ed. | Fr. | Monmouth |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|---------------------|
| Bennett, Gladys Marie | Com. | Soph. | La Grange, Cal. |
| Bennett, Jesse Joe | Agri. | Voc. | Weston |
| Bennett, Ralph Henry | Com. | Fr. | Santa Paula, Cal. |
| Bennett, Ray Henry | M.E. | Fr. | Portland |
| Bennett, Robert Franklin | E.E. | Fr. | Corvallis |
| Bennett, William Ralph | E.E. | Fr. | Corvallis |
| Benson, Albert Rhodes | Com. | Soph. | Orange, Cal. |
| Benson, Carl D. | Phar. | Fr. | Lebanon |
| Benson, Frances Irene | Com. | Jr. | Portland |
| Benson, George Willard | E.E. | Fr. | Portland |
| Benson, Maryellen | | Opt. | Corvallis |
| Benson, Mrs. Orpah | H.Ec. | Sr. | Corvallis |
| Bentley, Kenneth Gardner | Phar. | Soph. | Freewater |
| Bents, Jr., Henry Louis | Agri. | Fr. | Aurora |
| Bentzen, Harold Warren | For. | Spec. | Portland |
| Beougher, Ethel Olive | H.Ec. | Sr. | Albany |
| Berg, Edgar Percy | Agri. | Fr. | Nooksack, Wash. |
| Berg, Mildred Ione | H.Ec. | Jr. | Hoquiam, Wash. |
| Berg, Robert L. | Com. | Voc. | Birkenfeld |
| Berg, Winifred Barbara | H.Ec. | Sr. | Birkenfeld |
| Berger, Chris | E.E. | Fr. | Weiser, Idaho |
| Berger, Martha Louise | H.Ec. | Fr. | Hillsboro |
| Bergler, Herbert C. | M.E. | Jr. | Portland |
| Berglund, Elmer Otto | Agri. | Spec. | Tacoma, Wash. |
| Bergman, A. Robert | Com. | Fr. | Lebanon |
| Bergsvik, Loyalty | Com. | Soph. | Portland |
| Bernal, Aguido Z. | Com. | Fr. | Philippine Islands |
| Bernhardt, Halbert L. | Agri. | Voc. | Florence |
| Bernst, Edward Clifford | Phar. | Fr. | Portland |
| Berremann, Wm. W. | Com. | Soph. | Walla Walla, Wash. |
| Berry, George Lewis | C.E. | Fr. | Corvallis |
| Bertsch, Mabel Mary | Com. | Spec. | Corvallis |
| Bess, Irene Louise | Com. | Fr. | Portland |
| Best, Charles Acheson | E.E. | Jr. | Medford |
| Best, Garnet Douglas | Agri. | Soph. | Grants Pass |
| Betts, Genevieve Dillaye | Com. | Sr. | Seattle, Wash. |
| Beyers, John H. | Agri. | Fr. | Canyonville |
| Bickel, Leila Wynne | H.Ec. | Fr. | Portland |
| Biederman, Wilbur Geo. | Agri. | Jr. | Portland |
| Biegel, Earl Julius | E.E. | Jr. | Ashland |
| Biehler, Bessie Marion | H.Ec. | Sr. | Lynden, Wash. |
| Biehn, Frieda Georgiana | H.Ec. | Fr. | Portland |
| Biersdorf, Edgar Alwin | Agri. | Sr. | Portland |
| Billeter, Calvin Harry | E.E. | Sr. | Portland |
| Billeter, Phillip Jefferson | Com. | Fr. | Portland |
| Billings, Bernice Lynoot | Voc.Ed. | Soph. | Portland |
| Bilyeu, Bethel Leone | Phar. | Spec. | Jefferson |
| Bimrose, Frances Duffield | H.Ec. | Fr. | Dillon, Mont. |
| Bingham, Cedric Erle | Phar. | Fr. | Portland |
| Bingham, Jack Whitney | Com. | Soph. | So. Pasadena, Cal. |
| Binns, Hazel Ilene | H.Ec. | Soph. | Salem |
| Binns, Kenneth Lee | Com. | Soph. | Corvallis |
| Birch, Arthur Edson | Ch.E. | Fr. | Corvallis |
| Bird, James A. | Com. | Fr. | Corvallis |
| Bishop, Lionel John | E.E. | Fr. | Corvallis |
| Bishop, O. M. | M.E. | Jr. | Albany |
| Bitney, Kathleen Aubrey | Voc.Ed. | Fr. | Corvallis |
| Bixby, John S. | Agri. | Jr. | Freewater |
| Bjoaklund, David Geary | Agri. | Voc. | Corvallis |
| Bjorn, Hubert Steen | Com. | Fr. | Seary, Idaho |
| Bjornaas, Edward William | I.A. | Fr. | Woodburn |
| Black, Frank S. | Com. | Fr. | La Grande |
| Black, Mabel Grace | Com. | Sr. | Hillsboro |
| Black, Wm. Plummer | Agri. | Sr. | Corvallis |
| Blackburn, Caroline J. | Voc.Ed. | Jr. | Portland |
| Blackburn, Flossie Mae | H.Ec. | Jr. | Corvallis |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|----------------------|
| Blackstone, Percy Wendell | Com. | Fr. | Corvallis |
| Blackwell, Eva | Com. | Soph. | Reedsport |
| Blaesing, Walter William | Com. | Soph. | Portland |
| Blake, Dorothy Mae | H.Ec. | Soph. | Portland |
| Blakely, Harry Everett | Com. | Fr. | Baker |
| Bland, Lee | Agri. | Voc. | Durkee |
| Blinkhorn, John Edward | Agri. | Fr. | Wendell, Idaho |
| Blinn, Franklin Russell | Com. | Spec. | Los Angeles, Cal. |
| Blokland, Milo Francis | Agri. | Fr. | La Grande |
| Blosser, F. C. | Com. | Soph. | Fresno, Cal. |
| Blue, Albert Winston | Agri. | Fr. | Seattle, Wash. |
| Blume, Muriel Margaret | H.Ec. | Soph. | Albany |
| Blume, Otto Langdon | Phar. | Fr. | Albany |
| Boak, Gail Carrie | H.Ec. | Sr. | Bandon |
| Bochsler, Henry David | M.E. | Fr. | Portaldn |
| Bocock, Florence Ailene | H.Ec. | Fr. | Grants Pass |
| Bodge, Janice Meredith | H.Ec. | Spec. | Medford |
| Boehme, Henry E. | Agri. | Voc. | Fairgrove, Mo. |
| Boeringa, John | Agri. | Voc. | Concrete, Wash. |
| Bogen, Albert Louis | Agri. | Voc. | So. St. Paul, Minn. |
| Bogie, Donald Leeman | I.A. | Jr. | Puyallup, Wash. |
| Boise, R. Lucile | H.Ec. | Spec. | Salem |
| Boise, Reuben B. | Agri. | Soph. | Salem |
| Boiling, Leon | Mines | Jr. | Redlands, Cal. |
| Bolt, Leland Eddy | Com. | Jr. | Freewater |
| Bonar, Bertha May | H.Ec. | Fr. | Portland |
| Bond, Hadden Henry | E.E. | Fr. | Dayton |
| Bone, Wm. Nevius | Phar. | Fr. | Weiser, Idaho |
| Bonebrake, Dewalt Shipley | Mines | Fr. | Portland |
| Bonesteele, Georgia Rader | Com. | Fr. | Tigard |
| Bonge, Edith May | Com. | Spec. | Corvallis |
| Bonney, Lucky Lowell | Phar. | Jr. | Corvallis |
| Bonney, Marion Francis | H.Ec. | Fr. | Portland |
| Bonney, Orvis Pauline | H.Ec. | Fr. | Corvallis |
| Boon, Mildred | H.Ec. | Fr. | Portland |
| Boone, Arthur | Phar. | Soph. | Uplands, Cal. |
| Boone, Ira | Agri. | Jr. | Ontario, Cal. |
| Booster, Wallace Herman | M.E. | Soph. | Woodburn |
| Booth, Claud L. | E.E. | Soph. | Corvallis |
| Booth, Clifton Wallace | Agri. | Jr. | Corvallis |
| Booth, George Clive | C.E. | Fr. | Corvallis |
| Borden, Gertrude Francis | H.Ec. | Fr. | Portland |
| Borgard, Lester Arthur | Agri. | Fr. | Coquille |
| Borgeson, Arthur Andrew | Phar. | Jr. | Portland |
| Borrall, Bertha May | H.Ec. | Voc. | Medford |
| Bostic, Charlotte Christine | H.Ec. | Fr. | Sublett, Idaho |
| Bovee, Robert M. | Com. | Soph. | Corvallis |
| Bower, Agnes | | Opt. | Hillsboro |
| Bower, Harry | Com. | Soph. | Eugene |
| Bowers, Russell Arnett | Agri. | Voc. | Pendleton |
| Bowersox, John Maxwell | Phar. | Jr. | Monmouth |
| Bowker, Morris Crawford | Com. | Sr. | Roseburg |
| Bowman, Alice L. | H.Ec. | Soph. | Portland |
| Bowman, Kenneth Earl | M.A. | Voc. | Pendleton |
| Boyce, Charles Eugene | Com. | Fr. | Lacomb |
| Boyd, Carlisle Bainbridge | Com. | Fr. | Moapa, Nev. |
| Boyd, Carol Elizabeth | Com. | Soph. | Bend |
| Boyd, Gordon Harbison | Agri. | Spec. | Los Angeles, Cal. |
| Boydstrum, Harry Griffith | Com. | Voc. | Lakeview |
| Boyle, Claude M. | Agri. | Voc. | Seattle, Wash. |
| Boyle, Conrad Lewis | Mines | Soph. | Canyonville |
| Boyle, Wayne Joseph | For. | Voc. | Canyonville |
| Boyles, Huber Leo | Com. | Soph. | Turner |
| Bozarth, Linton E. | Agri. | Soph. | Woodland, Wash. |
| Brabham, George | Agri. | Voc. | Philomath |
| Bradley, Wm. Vernon | Agri. | Voc. | Granite Falls, Wash. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|----------------------|
| Brady, John Morris | Com. | Soph. | Ashland |
| Brankamp, Chas. Corley | Agri. | Sr. | Fresno, Cal. |
| Branland, Juanita Marie | Com. | Fr. | Portland |
| Branch, Nelle U. | | Opt. | Champaign, Ill. |
| Brashear, Harold William | Com. | Fr. | Rogue River |
| Brauer, Mildred Alice | Com. | Jr. | Eugene |
| Braun, William John | Com. | Soph. | Portland |
| Brauti, Erling | Phar. | Jr. | Toledo |
| Breitenstein, Clara Agnes | H.Ec. | Soph. | Salem |
| Bremner, Alexander | For. | Jr. | Astoria |
| Bressler, Wesleya M. | Com. | Fr. | Portland |
| Breusing, Carlena | H.Ec. | Jr. | Fresno, Cal. |
| Brewer, Jennie May | H.Ec. | Spec. | Corvallis |
| Brewer, Marjorie | Voc.Ed. | Sr. | Corvallis |
| Brewer, Wilma E. | Phar. | Fr. | Elma, Wash. |
| Brezzolaire, Marie Lucy | Com. | Fr. | Portland |
| Bricker, Elijah E. | E.E. | Spec. | Corvallis |
| Bridges, William Denniston | E.E. | Fr. | Hoquiam, Wash. |
| Briedwell, Hope Naomi | H.Ec. | Fr. | Amity |
| Briggs, John Stewart | M.E. | Sr. | Portland |
| Briggs, Louis Merle | Agri. | Sr. | Corvallis |
| Briggs, Merton Benjamin | C.E. | Jr. | Salem |
| Bright, Bernice | Com. | Jr. | Portland |
| Brightman, Agnes Sara | H.Ec. | Fr. | Sitka, Alaska |
| Brimner, Porter Amos | Agri. | Sr. | San Bernardino, Cal. |
| Brinkman, Jr., Paul | | Opt. | Portland |
| Britt, Glenn Milton | E.E. | Fr. | Corvallis |
| Britt, Lorin James | Com. | Fr. | Corvallis |
| Brixey, Clara Phonna | H.Ec. | Soph. | Corvallis |
| Broady, Chester Frank | M.A. | Voc. | Wallowa |
| Broders, Chester O. | Com. | Jr. | Corvallis |
| Broderston, Harry Theodore | Ch.E. | Jr. | Forest Grove |
| Broderston, Nora Emma | H.Ec. | Fr. | Payette, Idaho |
| Broeren, John N. | C.E. | Soph. | Portland |
| Brooks, Clark Floyd | Com. | Voc. | Hazelton, Idaho |
| Brothers, Ethel Mae | H.Ec. | Spec. | Long Beach, Cal. |
| Brothers, Mable Ellen | H.Ec. | Sr. | Long Beach, Cal. |
| Brower, William | Com. | Fr. | El Cajon, Cal. |
| Brown, Andrew | E.E. | Fr. | Centralia, Wash. |
| Brown, Clell Grandison | M.E. | Jr. | Pendleton |
| Brown, Edwin Fuller | Agri. | Jr. | Albany |
| Brown, Frank W. | Agri. | Voc. | Reardon, Wash. |
| Brown, George W. | M.E. | Fr. | Union |
| Brown, G. Allen | Com. | Jr. | Corvallis |
| Brown, Gladys Mary | H.Ec. | Fr. | Corvallis |
| Brown, Laurence C. | Agri. | Sr. | Troy |
| Brown, Laurence Spencer | Agri. | Jr. | Oakland, Cal. |
| Brown, Glenn Norman | Agri. | Spec. | Crane |
| Brown, Mabel Frieda | H.Ec. | Fr. | Marshfield |
| Brown, Margaret Claire | H.Ec. | Fr. | Applegate |
| Brown, Marjorie Willard | Voc.Ed. | Jr. | Salem |
| Brown, Nathan | Mines | Soph. | Burns |
| Brown, Oliver Ellis | Com. | Sr. | Philomath |
| Brown, Otis Carleton | Agri. | Voc. | McKinley |
| Brown, Ronald Wesley | Agri. | Fr. | Albany |
| Bruce, Ernest Siviter | Agri. | Fr. | Pasadena, Cal. |
| Brucher, Olga | H.Ec. | Soph. | Remsen, Iowa |
| Brusk, Carl R. | Agri. | Spec. | Milwaukee, Wis. |
| Brugger, Andrew Julius | C.E. | Sr. | Gresham |
| Brugger, Anna Marie | H.Ec. | Sr. | Gresham |
| Brugger, Melvin Julius | Agri. | Fr. | Gresham |
| Brumbaugh, Madeline | H.Ec. | Jr. | Corvallis |
| Bryan, Darrel F. | M.A. | Voc. | Corvallis |
| Bryant, Florence Ardas | H.Ec. | Soph. | Corvallis |
| Bryant, Gardner William | Agri. | Voc. | Corvallis |
| Bryant, Lou Herald | M.A. | Fr. | Forest Grove |

UNDERGRADUATE STUDENTS

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| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|---------------------------------|-------------------|-------------|---------------------|
| Bryant, Rosemary | H.Ec. | Fr. | Hollywood, Cal. |
| Bubb, Fred Stanford | Agri. | Fr. | Huntington |
| Buchanan, Ruth Eleanor | | Opt. | Corvallis |
| Buchholz, Vine Arthur | Com. | Fr. | Portland |
| Buckman, Donald Wells | Mines | Soph. | Portland |
| Buell, Arthur Marquis | C.E. | Fr. | Salem |
| Buell, Florence | Com. | Sr. | Grants Pass |
| Bugbee, Solon Kennedy | Phar. | Soph. | Portland |
| Buillard, Frank Wesley | Agri. | Sr. | Bullards |
| Bullen, Carroll Alling | C.E. | Fr. | Portland |
| Bullis, Mrs. D. W. | H.Ec. | Spec. | Corvallis |
| Bump, Chester Allen | Phar. | Soph. | Corvallis |
| Bump, Clarence Lee | Voc.Ed. | Sr. | Corvallis |
| Bump, Victor Leland | M.E. | Soph. | Corvallis |
| Bunnelle, Doris Hadlock | H.Ec. | Jr. | San Dimas, Cal. |
| Buono, Ralph | Com. | Fr. | Portland |
| Burcham, Clyde Anderson | Mil. | Jr. | Cottage Grove |
| Burden, Fayne Eleanor | H.Ec. | Jr. | Gladstone |
| Burgess, Bernice B. | Com. | Soph. | Astoria |
| Burk, Faith R. | H.Ec. | Soph. | Portland |
| Burke, Arthur William | Agri. | Voc. | Seattle, Wash. |
| Burke, Thomas A. | Com. | Spec. | Aberdeen, Wash. |
| Burkett, Ernest M. | Agri. | Spec. | Puyallup, Wash. |
| Burkhart, Marjorie Virginia | H.Ec. | Fr. | Seattle, Wash. |
| Burkhart, Robert Crosley | Agri. | Soph. | Seattle, Wash. |
| Burlingame, Natalie | H.Ec. | Sr. | Sacramento, Cal. |
| Burlingame, Jr., George Morrell | E.E. | Fr. | Kerry |
| Burr, Edmund Willard | Agri. | Fr. | Hayward, Cal. |
| Burright, Glenn Orin | Com. | Fr. | Independence |
| Burrough, Julian De Forest | M.E. | Fr. | Salem |
| Bursell, Hazel Olivia | H.Ec. | Sr. | Dallas |
| Bursell, Homer Gordon | For. | Fr. | Dallas |
| Burt, Uriel S. | Com. | Jr. | Corvallis |
| Burtner, John Cole | Agri. | Jr. | Dufur |
| Burya, Fred Franklin | M.E. | Soph. | Woodburn |
| Bush, Dorothy Louise | H.Ec. | Spec. | Portland |
| Bushnell, Lydia | H.Ec. | Voc. | Salem |
| Bushnell, Watrous Ferry | C.E. | Spec. | Portland |
| Butler, Guy H. | Ch.E. | Sr. | Albany |
| Butler, Melva May | Com. | Fr. | Grass Valley |
| Butler, Random Roderick | For. | Voc. | Service Creek |
| Butler, Ray Elmer | E.E. | Jr. | Eugene |
| Butler, Vernon Melvin | Agri. | Fr. | Ontario |
| Buttervich, Vincent Floyd | Agri. | Sr. | Fairbanks, Alaska |
| Butz, Elmer Finley | Agri. | Jr. | Dallas |
| Buxton, Henry Oliver | Com. | Jr. | Corvallis |
| Buxton, Maurice Wade | Agri. | Soph. | Corvallis |
| Byers, Harry Howe | Com. | Soph. | Portland |
| Byrd, Michael L. | Phar. | Jr. | Hot Springs, Ark. |
| Byron, Marlyn Bullard | M.A. | Voc. | Seattle, Wash. |
| Cain, Richard Dennis | Agri. | Voc. | Blaine, Wash. |
| Calbreath, Charles T. | E.E. | Soph. | Independence |
| Caldwell, Sidney Eugene | E.E. | Jr. | Portland |
| Caldwell, William Butterfield | Com. | Soph. | Epping, N. H. |
| Calef, Carl Stevens | Agri. | Jr. | Eugene |
| Calkins, Clara May | H.Ec. | Jr. | Mt. Vernon, Wash. |
| Calkins, Estella Josephine | H.Ec. | Fr. | Mt. Vernon, Wash. |
| Callaway, James Williard | Com. | Fr. | Brownsville |
| Callihan, James Scott | Phar. | Fr. | Union |
| Callison, Clarence Richard | Com. | Fr. | Aberdeen, Wash. |
| Campbell, Carvel Churchman | Com. | Spec. | Salem |
| Campbell, Donald B. | Mines | Sr. | Portland |
| Campbell, Eldora | Com. | Spec. | Portland |
| Campbell, Harold Payne | Com. | Fr. | Medford |
| Campbell, James S. | M.E. | Sr. | Roseburg |
| Campbell, John Earl | Com. | Fr. | Amity |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-------------------------------|-------------------|-------------|----------------------|
| Campion, Edessa Emily | H.Ec. | Soph. | Portland |
| Cannavina, Anthony David | For. | Jr. | Pasadena, Cal. |
| Capell, Frances F. | Com. | Jr. | Portland |
| Carbonell, Hermogenes Barba | Com. | Sr. | Philippine Islands |
| Card, Harry J. | Agri. | Soph. | White Salmon, Wash. |
| Carey, Clifford Laurence | Agri. | Voc. | Halsey |
| Carl, John William | M.E. | Fr. | Garibaldi |
| Carlsen, Clifford Norman | Agri. | Sr. | Kent, Wash. |
| Carlson, Albert Edward | M.E. | Fr. | Greenfield, Cal. |
| Carlson, Amy Theresa | Com. | Soph. | Moscow, Idaho |
| Carlson, Donald Gustaf | E.E. | Fr. | Portland |
| Carlson, Harry Alixes | Agri. | Voc. | Canton, Kansas |
| Carlson, Stella Irene | H.Ec. | Fr. | Echo |
| Carnine, Dorothy Louise | Com. | Fr. | White Salmon, Wash. |
| Carnine, Richard McAllister | M.E. | Fr. | White Salmon, Wash. |
| Carpenter, Ben William | Com. | Jr. | Los Angeles, Cal. |
| Carpenter, Glen Earl | Agri. | Spec. | Boardman |
| Carpenter, Wm. Henry | E.E. | Fr. | Corvallis |
| Carr, John Baptiste | Phar. | Spec. | Milwaukie |
| Carr, Ivan Wesley | For. | Fr. | Pendleton |
| Carratt, Ruby E. | Phar. | Soph. | Kennewick, Wash. |
| Carroll, Alice Winifred | Voc.Ed. | Soph. | Newport |
| Carroll, Chas. P. | C.E. | Jr. | Portland |
| Carson, Caryl C. | Ch.E. | Jr. | Salem |
| Carter, Addie Elizabeth | H.Ec. | Spec. | Corvallis |
| Carter, Conway Delbert | E.E. | Fr. | Corvallis |
| Carter, Earl Edgar | Com. | Fr. | Corvallis |
| Carter, Gladys Elnore | Com. | Fr. | Myrtle Point |
| Carter, Haskill Clarence | M.E. | Jr. | Corvallis |
| Carter, Merle | Com. | Fr. | Portland |
| Carter, Pauline Frances | Com. | Soph. | Barstow, Cal. |
| Carter, Thomas Loren | For. | Soph. | Long Creek |
| Caruthers, Albert Marion | Agri. | Voc. | Springfield |
| Case, Cecile Belle | Com. | Soph. | Central Point |
| Case, Mildred Vesta | Voc.Ed. | Jr. | Raymond, Wash. |
| Casey, May Helen | Com. | Soph. | Meacham |
| Cassell, Bruce | M.E. | Fr. | Portland |
| Castee, Frank | Agri. | Voc. | Springfield |
| Castle, Evelyn Estella | Phar. | Fr. | Centralia, Wash. |
| Castle, Sara Lauretta | Com. | Fr. | Centralia, Wash. |
| Casto, Joseph Harold | E.E. | Fr. | Clackamas |
| Caswell, Lucile Fanny | Com. | Sr. | Portland |
| Catlin, Charles F. | Com. | Voc. | Spray |
| Catlin, Mrs. Ruth Margarite | Com. | Spec. | Fossil |
| Cauch, Winifred Shirley | H.Ec. | Jr. | Santa Paula, Cal. |
| Cavanagh, Edythe Alma | Com. | Fr. | North Bend |
| Cave, Ira Bert | E.E. | Fr. | Corvallis |
| Cavin, Elmer Lynn | C.E. | Fr. | Heber, Cal. |
| Cayford, Frank Luther | Agri. | Fr. | Emmett, Idaho |
| Chaffee, Dorothy Lucile | H.Ec. | Soph. | Bloomington, Cal. |
| Chainov, Arnold S. | Phar. | Jr. | Portland |
| Chamberlain, Orange Brandon | Phar. | Fr. | Richland, Wash. |
| Chambers, Bernice Gertrude | H.Ec. | Jr. | Canyon City |
| Chambers, Harriette Elizabeth | H.Ec. | Sr. | Chicago, Ill. |
| Chandler, James R. | C.E. | Fr. | Elgin |
| Chandler, Ollie May | H.Ec. | Sr. | Walla Walla, Wash. |
| Chandler, Veva Mary | Com. | Sr. | Walla Walla, Wash. |
| Chapel, Franklin Gage | M.E. | Sr. | Portland |
| Chapman, Earl Hoyting | For. | Sr. | Rivera, Cal. |
| Chapman, Lucile Hildred | H.Ec. | Spec. | Corvallis |
| Chapman, Paul J. | Agri. | Sr. | Santa Rosa, Cal. |
| Chapman, Ralph A. | | Opt. | Corvallis |
| Charlston, Gus Adolph | E.E. | Soph. | Brush Prairie, Wash. |
| Cheadle, Geo. H. | Phar. | Jr. | Lebanon |
| Cheeld, Charles M. | E.E. | Fr. | Vancouver, Wash. |
| Chenoweth, John Anthony | Agri. | Jr. | Wallowa |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|--------------------------------|-------------------|-------------|----------------------|
| Chesser, Arzie Maxwell | Com. | Jr. | Stevenson, Wash. |
| Chindgren, Ruben Franklin | I.A. | Jr. | Mulino |
| Chrisman, Caz Samuel | Agri. | Voc. | Wolf Point, Mont. |
| Chrisman, Harold Francis | Com. | Soph. | Portland |
| Christensen, Emile H. | Agri. | Sr. | Portland |
| Christensen, Esther Marie | Com. | Soph. | Portland |
| Christensen, Fred | M.E. | Jr. | Timber |
| Christensen, Robert | | Opt. | Seattle, Wash. |
| Christiansen, Charles Claudius | Com. | Fr. | Ontario |
| Christiansen, Clarence Lewis | Mines | Sr. | Portland |
| Christiansen, Hans Laurits | Agri. | Voc. | Bend |
| Christiansen, Marie Cora | Com. | Fr. | Portland |
| Christianson, Arthur B. | M.E. | Jr. | Moro |
| Christianson, Herbert Carl | E.E. | Fr. | Portland |
| Christie, Vera Ardell | | Opt. | Woodburn |
| Christley, J. Dell | I.A. | Soph. | Baker |
| Chromy, Rose Ellinore | | Opt. | Scio |
| Chruden, Laurence Bertrun | Mines | Soph. | Corvallis |
| Chu, John Shih | Agri. | Sr. | Vancouver, B. C. |
| Church, Ruth | H.Ec. | Fr. | Williams, Cal. |
| Church, Wilmot Freeman | Ch.E. | Spec. | Portland |
| Churchill, Jennie Babb | | Opt. | Corvallis |
| Cifre, Guilermo | Agri. | Fr. | Corvallis |
| Clague, Marietta | H.Ec. | Sr. | Anaconda, Mont. |
| Clark, J. M. | | Opt. | Philippine Islands |
| Clark, Alton B. | Phar. | Soph. | Flora |
| Clark, David | Agri. | Soph. | Veneta |
| Clark, Edward Leslie | E.E. | Jr. | Salem |
| Clark, Evelyn Winona | Com. | Soph. | Corvallis |
| Clark, Frank Willard | Com. | Jr. | Hoquiam, Wash. |
| Clark, John Molton | M.A. | Voc. | Scio |
| Clark, Leslie Lewis | Phar. | Fr. | Glenns Ferry, Idaho |
| Clark, Lewis Philip | Phar. | Fr. | Corvallis |
| Clark, Michael Homer | Agri. | Voc. | Clarkston, Utah |
| Clark, Raymond Chester | Agri. | Soph. | Salem |
| Clark, Rex Anderson | Phar. | Fr. | Burns |
| Clark, Robert Ralph | Agri. | Fr. | La Grande |
| Clark, Rowena | H.Ec. | Fr. | Portland |
| Clark, Spencer Charles | E.E. | Soph. | Seattle, Wash. |
| Clark, Thomas Bricker | Agri. | Voc. | Payette, Idaho |
| Clark, William Evans | For. | Soph. | Portland |
| Clarke, Elton B. | M.E. | Jr. | Condon |
| Clarke, Jack Keating | Phar. | Soph. | Victor, Mont. |
| Clary, Solona Fetitia | Com. | Fr. | Portland |
| Clayton, Mark Manning | Ch.E. | Fr. | Albany |
| Cleaver, Harry Morris | Agri. | Soph. | Imbler |
| Clemons, Charles H. | Agri. | Soph. | Montesano, Wash. |
| Cleverdon, Edmund George | Agri. | Voc. | Corvallis |
| Clifford, Ida Arvilla | H.Ec. | Sr. | Portland |
| Clifton, Lucile | H.Ec. | Fr. | Reedley, Cal. |
| Clifton, Marjorie L. | | Opt. | Reedley, Cal. |
| Clifton, M. Evelyn | Voc.Ed. | Soph. | Seattle, Wash. |
| Clinton, Harl K. | Com. | Fr. | Myrtle Point |
| Clinton, Saide H. | Com. | Fr. | Astoria |
| Clodfelter, Donald Lemley | Phar. | Jr. | Corvallis |
| Clough, Alfred Blakeley | Agri. | Sr. | Portland |
| Clough, Frank Harvie | C.E. | Sr. | San Diego, Cal. |
| Clow, Harold Basil | Com. | Voc. | Mill City |
| Coburn, Austin Plummer | Com. | Soph. | Manchester, N. H. |
| Cochran, Glen Edward | E.E. | Soph. | Cloverdale |
| Cochran, Marion Albert | Com. | Fr. | The Dalles |
| Cockerline, Dorothy Alice | Com. | Fr. | Albany |
| Cockrum, Arthur Bishop | Com. | Sr. | Ontario |
| Coe, Francis Morse | Agri. | Jr. | San Bernardino, Cal. |
| Coe, Mary Margery | Voc.Ed. | Spec. | Portland |
| Cofer, Eldon Howard | C.E. | Sr. | Klamath Falls |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|---------------------------|-------------------|-------------|----------------------|
| Coffeen, Fred Dean | Agri. | Soph. | Corvallis |
| Coffeen, Ruth Marion | H.Ec. | Spec. | Corvallis |
| Coffey, Darrel Wilbur | E.E. | Fr. | Kalama, Wash. |
| Coffey, Victor Harrison | C.E. | Spec. | Warrenton |
| Cogan, Grace E. | Com. | Fr. | Portland |
| Colby, Grace Ada | H.Ec. | Fr. | Newberg |
| Cole, Cecile | Com. | Fr. | Corvallis |
| Cole, Clara Alida | H.Ec. | Sr. | Yacolt, Wash. |
| Cole, Hazel Helen | H.Ec. | Jr. | Portland |
| Cole, Helen Hazel | H.Ec. | Jr. | Portland |
| Cole, Vida Beatrice | H.Ec. | Jr. | Molalla |
| Coleman, Florence Bell | Com. | Fr. | Wallowa |
| Coleman, Herbert Sidney | Agri. | Spec. | Estacada |
| Coleman, Pete W. | Com. | Fr. | Long Beach, Cal. |
| Coleman, Rachel B. | Com. | Fr. | Long Beach, Cal. |
| Coles, Beulah V. | Voc.Ed. | Fr. | Baker |
| Coles, Edward W. | Com. | Soph. | Portland |
| Coles, Levi Elsworth | Com. | Soph. | Corvallis |
| Collins, Bertha Claire | Com. | Spec. | Corvallis |
| Collins, Katherine Louise | Com. | Fr. | Salem |
| Colwell, Elmer Teed | Com. | Jr. | Portland |
| Colwell, Russell McGee | Com. | Jr. | Portland |
| Combs, Arthur William | Agri. | Jr. | Cottage Grove |
| Compton, Joseph E. | Agri. | Voc. | Baker City |
| Condit, Craig C. | Agri. | Sr. | Sitka, Alaska |
| Condon, George Bradley | Agri. | Soph. | San Bernardino, Cal. |
| Conklin, Marion | H.Ec. | Fr. | Cove |
| Conklin, Robert Pierson | For. | Spec. | Portland |
| Conlee, Lorlene Morrow | Com. | Fr. | Roseburg |
| Conley, Edw. D. | Agri. | Jr. | Corvallis |
| Conner, Ava Grace | H.Ec. | Soph. | Corvallis |
| Conner, Rita Lorie | H.Ec. | Sr. | Corvallis |
| Connet, Darwin Bardwell | I.A. | Jr. | Corvallis |
| Conway, Jewell Ruth | Voc.Ed. | Sr. | Anaconda, Mont. |
| Conser, Lotus M. | Com. | Fr. | Albany |
| Conway, James Stewart | Agri. | Voc. | Corvallis |
| Cook, Charlie Joseph | M.E. | Soph. | Portland |
| Cook, Gayle Helen | Com. | Jr. | Portland |
| Cook, James Allie | Agri. | Voc. | Lostine |
| Cook, Lloyd Lee | Agri. | Jr. | San Bernardino, Cal. |
| Cooley, Earl Ray | Agri. | Jr. | Jefferson |
| Cooley, Lyman A. | Com. | Jr. | Parkwood |
| Coon, James Mason | Mines | Soph. | Gooding, Idaho |
| Cooper, Clarence Edward | M.E. | Jr. | Portland |
| Cooper, Florence Adah | Com. | Voc. | Hood River |
| Cooper, Florence Mildred | H.Ec. | Spec. | Albany |
| Cooper, Harold Gettys | Com. | Fr. | Hemet, Cal. |
| Cooper, Howard Laraway | M.E. | Sr. | Hood River |
| Cooper, Oris Leone | E.E. | Fr. | Portland |
| Copeland, Alvin Silas | Agri. | Jr. | Los Angeles, Cal. |
| Coppin, Geneva Lotys | H.Ec. | Soph. | Portland |
| Copple, Edgar Pearl | Com. | Soph. | Portland |
| Corbett, Orville Willard | Phar. | Soph. | Port Angelus, Wash. |
| Corbett, Philip Lynn | M.E. | Spec. | Corvallis |
| Cordelle, Howard A. | E.E. | Sr. | Monrovia, Cal. |
| Cordley, Dorothea McLouth | H.Ec. | Jr. | Corvallis |
| Corenbaum, Jack | Mines | Soph. | Corvallis |
| Corlett, Anne | Com. | Jr. | Reedley, Cal. |
| Corlett, Donald A. | Mines | Jr. | Portland |
| Cornutt, Mildred Sarah | Com. | Fr. | Portland |
| Cornwell, Ethel Klann | H.Ec. | Spec. | Corvallis |
| Corrie, John Quincy | Agri. | Jr. | Corvallis |
| Corrigall, Violet Maxine | H.Ec. | Soph. | Echo |
| Corsiglia, John | M.E. | Fr. | St. Helens |
| Corum, Bryan J. | Com. | Fr. | Medford |
| Cosby, Rowena | H.Ec. | Spec. | Corvallis |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| Couch, Lloyd Albert | Phar. | Soph. | Portland |
| Coulson, Korle Faye | E.E. | Fr. | Ft. Collins, Colo. |
| Couper, George Percival | Com. | Fr. | Portland |
| Courtney, William McKinley | Com. | Voc. | Hillsboro |
| Courtright, Eunice Esther | Com. | Fr. | Corvallis |
| Cousineau, Chrystal Fern | H.Ec. | Fr. | Portland |
| Covell, Kenneth Alvord | M.E. | Soph. | Corvallis |
| Cowgill, Thomas Griffith | C.E. | Soph. | Spokane, Wash. |
| Cox, Dwight | Agri. | Soph. | Ontario |
| Cox, James Lewis | Agri. | Voc. | Portland |
| Cox, Walter Allen | Voc.Ed. | Spec. | Corvallis |
| Coyner, Elmer Leroy | Com. | Fr. | Bend |
| Coyner, Marion Lee | Com. | Jr. | Bend |
| Craft, W. Hall | C.E. | Spec. | Clatskanie |
| Craft, William U. | Agri. | Voc. | Greeley, Colo. |
| Cram, Dorothy D. | H.Ec. | Soph. | Hood River |
| Cramer, Arthur P. | C.E. | Jr. | Grants Pass |
| Cramer, Jeannette Putman | H.Ec. | Sr. | Grants Pass |
| Cramer, Noah Arthur | Agri. | Voc. | Corvallis |
| Cramer, Vivian VaLetha | H.Ec. | Fr. | Silverton |
| Crandall, Kenneth W. | Com. | Soph. | Hillsboro |
| Crandall, Loid | I.A. | Spec. | Corvallis |
| Crane, Norman David | Ch.E. | Soph. | Corvallis |
| Crans, Hazel Belle | Phar. | Spec. | Corvallis |
| Crans, Ruth | Com. | Fr. | Corvallis |
| Craven, Lucille LaVonne | H.Ec. | Jr. | Independence |
| Craven, Robert William | Com. | Fr. | Independence |
| Craven, Milton Mowrey | For. | Jr. | Parkdale |
| Craw, Don | Com. | Fr. | Newberg |
| Crawford, Casper Vincent | Com. | Soph. | Heppner |
| Crawford, Ellen Lee | H.Ec. | Jr. | Fresno, Cal. |
| Crawford, Malcom J. | Agri. | Sr. | Fresno, Cal. |
| Crim, Roy F. | M.E. | Jr. | Corvallis |
| Criswell, Allen William | Com. | Fr. | Portland |
| Crocker, Harry Charles | Com. | Soph. | Roseburg |
| Croisant, Albert Arthur | M.E. | Jr. | Corvallis |
| Cromwell, Miriam Morse | Com. | Fr. | Tacoma, Wash. |
| Cross, Donald Hubert | Agri. | Jr. | Bellingham, Wash. |
| Crout, John Shaw | M.E. | Jr. | Portland |
| Crouter, Alfred | Agri. | Fr. | Union |
| Crouter, Mary Catherine | Com. | Sr. | Union |
| Crow, Grant | Mines | Jr. | Pocatello, Idaho |
| Crowell, Andrew Edward | Agri. | Jr. | Los Angeles, Cal. |
| Crowell, Chester E. | Mines | Sr. | Blanchard, Wash. |
| Crump, Evelyn Marie | Com. | Soph. | Portland |
| Cruson, Ralph | Com. | Fr. | Lebanon |
| Cummings, Frances Wright | H.Ec. | Sr. | Corvallis |
| Cummings, Gretchen Chapman | H.Ec. | Opt. | Littleton, Mass. |
| Cummings, Jay Wilson | Com. | Sr. | Corvallis |
| Cummins, Chas. D. | M.E. | Soph. | Yaquina |
| Cummins, Harold Graham | M.E. | Fr. | Nampa, Idaho |
| Cunning, Ethel | Com. | Sr. | Baker |
| Cunningham, Ethel S. | H.Ec. | Spec. | Corvallis |
| Cunningham, J. Ione | H.Ec. | Soph. | Merced, Cal. |
| Cunningham, Joseph Hobart | C.E. | Jr. | Portland |
| Curl, Byron A. | Ch.E. | Sr. | Lebanon |
| Curl, Charles O. | Com. | Spec. | Beaver |
| Curran, John Daniel | Agri. | Soph. | Portland |
| Currie, Helen | Voc.Ed. | Fr. | Macleay |
| Currie, Robert Burroughs | Com. | Soph. | Everett, Wash. |
| Currin, Margaret Jeannette | H.Ec. | Soph. | Corvallis |
| Currin, Virginia Forbes | H.Ec. | Fr. | Gresham |
| Curtis, Alice E. | Com. | Jr. | Marshfield |
| Curtis, Jr., William John | Agri. | Soph. | Comstock |
| Cusack, Mary Christina | Agri. | Jr. | Portland |
| Cutright, Arden Lee | C.E. | Soph. | Czar, W. Va. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|----------------------|
| Cutright, Leslie Franklin | Agri. | Soph. | Czar, W. Va. |
| Cyrus, Wm. Fletcher | Agri. | Sr. | Corvallis |
| Daege, Opal Mae | Com. | Soph. | Long Beach, Cal. |
| Dahl, Ellen | H.Ec. | Jr. | Portland |
| Daigh, Charles Warren | Agri. | Sr. | Ontario, Cal. |
| Dake, Irving Chittenden | Agri. | Jr. | Santa Cruz, Cal. |
| Dakin, Hursey Alfred | E.E. | Soph. | Freewater |
| Dalby, Harriet May | H.Ec. | Fr. | Portland |
| Dalziell, Roy E. | For. | Voc. | Boise, Idaho |
| Danaber, Catherine | Com. | Fr. | Portland |
| Daniels, Thaxter Norman | I.A. | Soph. | Milwaukie |
| Daniels, William Christopher | Agri. | Spec. | Hoquiam, Wash. |
| Danielson, Lillian C. | Com. | Jr. | Tacoma, Wash. |
| Daue, Clifford Oliver | Phar. | Jr. | Salem |
| Daus, Rosalia Keller | Com. | Fr. | Portland |
| Davids, Arnold Gustave | Agri. | Sr. | Pasadena, Cal. |
| Davidson, Claude B. | E.E. | Jr. | Hood River |
| Davidson, Thomas J. | M.E. | Fr. | Ione |
| Davies, Leta Ann | H.Ec. | Fr. | Jacksonville |
| Davis, Anita Kennedy | Com. | Jr. | Corvallis |
| Davis, Archie Ralph | Mines | Fr. | San Francisco, Cal. |
| Davis, Arthur Edward | Com. | Jr. | Roseburg |
| Davis, Audley James | Ch.E. | Fr. | Eugene |
| Davis, Beatrice | H.Ec. | Soph. | Forest Grove |
| Davis, Berkeley A. | Com. | Sr. | Santa Ana, Cal. |
| Davis, Chas. K. | E.E. | Soph. | Powers |
| Davis, Dana Martin | C.E. | Fr. | Medford |
| Davis, Earl Geo. | Agri. | Soph. | Tacoma, Wash. |
| Davis, Edna Belle | H.Ec. | Sr. | Inglewood, Cal. |
| Davis, Frank Raphail | Agri. | Fr. | San Bernardino, Cal. |
| Davis, F. Riley | Com. | Jr. | Medford |
| Davis, Hayden Clarence | Com. | Fr. | Chico, Cal. |
| Davis, Henrietta | H.Ec. | Jr. | Montague, Cal. |
| Davis, Herbert W. | Com. | Sr. | Corvallis |
| Davis, John Elmer | Com. | Fr. | Vale |
| Davis, Joseph Cowell | E.E. | Soph. | Blackfoot, Idaho |
| Davis, Leslie Curtis | Agri. | Soph. | Rockdale, Texas |
| Davis, Walter E. | Agri. | Soph. | Hood River |
| Davis, Wayne Keith | Com. | Jr. | Pomeroy, Wash. |
| Davolt, Bertha Eunice | H.Ec. | Sr. | Kelso, Wash. |
| Dawes, Clifford Marshall | Com. | Sr. | Eugene |
| Dawe, Percy | I.A. | Soph. | Portland |
| Dawson, Floyd Wildon | Agri. | Jr. | Milford, Ill. |
| Dawson, Paul Curtis | Agri. | Voc. | Albany |
| Day, Allen | Phar. | Soph. | New Plymouth, Idaho |
| Day, Delbert | For. | Jr. | Portland |
| Day, George Borns | Com. | Fr. | Lexington, Mass. |
| Day, Irving Frederick | E.E. | Soph. | Portland |
| Dean, Frank Cobb | E.E. | Soph. | Central Point |
| Dean, Paul Noble | M.E. | Fr. | Ontario, Cal. |
| Dean, Sidney C. | C.E. | Sr. | Castle Rock, Wash. |
| Dean, Clifford Ralph | M.A. | Voc. | Astoria |
| Deane, William Robert | Com. | Fr. | Astoria |
| Deearth, James Clifford | Com. | Voc. | Halfway |
| Deckebach, Frank Geo., Jr. | Com. | Fr. | Salem |
| Decker, Roy | Agri. | Voc. | Portland |
| Dedman, Craig Chas. | Com. | Soph. | Canby |
| Deets, Joe | Com. | Fr. | Roseburg |
| Deggendorfer, Aloysius J. | Agri. | Soph. | Portland |
| Deggendorfer, Theodore Geo. | Mines | Jr. | Portland |
| Deichman, Charles Leonard | E.E. | Jr. | Hillsboro |
| Deiwart, Beth LaBlanche | H.Ec. | Soph. | Everett, Wash. |
| Delphay, Calvin Charles | Agri. | Jr. | Chino, Cal. |
| Delzell, Thomas White | C.E. | Jr. | Klamath Falls |
| de Macedo, William | Agri. | Jr. | Victoria, B. C. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|-----------------------|
| De Moy, Joseph Spencer | Ch.E. | Jr. | Estacada |
| Demuth, James Drummond | M.A. | Voc. | Hornbrook, Cal. |
| DeNeui, Alfred M. | Agri. | Voc. | Oregon City |
| Denlinger, Wendell H. | M.E. | Jr. | Hillsdale |
| Denman, Augustus Nathan | Com. | Sr. | Tacoma, Wash. |
| Denman, Lela Maud | H.Ec. | Soph. | Parma, Idaho |
| Denman, Wayne Leonard | Ch.E. | Fr. | Corvallis |
| Dennis, Bruce | Com. | Jr. | Raymond, Wash. |
| Dennis, Roy Alfred | Phar. | Fr. | Kuna, Idaho |
| Denny, Merrill | For. | Soph. | Etna Mills, Cal. |
| Denson, Floyd Harry | Com. | Fr. | Corvallis |
| Dental, Russell James | E.E. | Soph. | Beaver |
| Dentler, Jeannette Isabella | Com. | Fr. | Portland |
| Dentler, John A. E. | Com. | Jr. | Portland |
| Dependahl, George Irwin | M.E. | Fr. | Pasadena, Cal. |
| Derby, Thos. R. | Agri. | Fr. | San Jose, Cal. |
| Derrick, James Glen | Ch.E. | Fr. | Toledo, Ore. |
| Derthick, Lewis | Phar. | Fr. | Maupin |
| DeSart, Delmer George | C.E. | Fr. | Donald |
| Des Ruisseaux, John Louis | M.E. | Fr. | Twin Falls, Idaho |
| Devin, Keltzie | I.A. | Fr. | Ione |
| Dewsen, Deo. | E.E. | Soph. | Seattle, Wash. |
| Dewsen, Pearl Glen | H.Ec. | Spec. | Seattle, Wash. |
| Dexter, Olive Seabury | Com. | Jr. | Hamilton, Wash. |
| Dexter, Roy Rex | Com. | Jr. | Ashland |
| Devoe, Alden Warren | C.E. | Fr. | Myrtle Point |
| Dhawan, Jagan Nath | Mines | Fr. | Kasur, India |
| Dibble, Grace Pearl | Com. | Voc. | Washougal, Wash. |
| Dick, Bertram Gale | M.E. | Soph. | Albee |
| Dick, Cora Mae | Com. | Fr. | Bend |
| Dick, Pauline Louise | H.Ec. | Soph. | Portland |
| Dickenson, John Marshall | M.E. | Soph. | Santa Paula, Cal. |
| Dickerson, Donald Holmes | Agri. | Fr. | Weiser, Idaho |
| Dickey, Paul Condit | Agri. | Jr. | Corvallis |
| Dickinson, Arthur Lewis | Agri. | Sr. | Corvallis |
| Dickinson, Cameron Turner | Agri. | Jr. | Corvallis |
| Dickinson, Clifford Raymond | Ch.E. | Fr. | Camas, Wash. |
| Dickinson, Ulla | H.Ec. | Jr. | Independence |
| Dickson, Helen Dagny | H.Ec. | Voc. | Corvallis |
| Dickson, John Raymond | S.E. | Jr. | Toledo |
| Dieffenbach, E. Christian | M.E. | Fr. | Salem |
| Di Julio, Chris J. | Phar. | Fr. | Portland |
| Dikeman, Raymond | Agri. | Voc. | Miotaze, Kansas |
| Dilberger, Harold August | E.E. | Jr. | Corvallis |
| Dilley, Harold Warner | E.E. | Jr. | Portland |
| Dilley, Helene C. | H.Ec. | Spec. | Eugene |
| Dillingham, Jean | H.Ec. | Spec. | Barstow, Cal. |
| Dixon, Mrs. Belva P. | Com. | Sr. | Corvallis |
| Dixon, Ellis Wm. | C.E. | Soph. | Yakima, Wash. |
| Dobbin, Francis Hutchinson | Phar. | Fr. | Union |
| Dobbs, Harry C. | E.E. | Jr. | Portland |
| Dobell, Wilna E. | Com. | Soph. | Corvallis |
| Doble, Horace Everette | M.A. | Voc. | Cosmopolis, Wash. |
| Dobson, Evelyn | H.Ec. | Soph. | Seattle, Wash. |
| Dobson, Smith Weed | Mil. | Sr. | Pacific Beach, Cal. |
| Dodge, Florence Philbrick | H.Ec. | Fr. | Seattle, Wash. |
| Dodge, Helen Betty | H.Ec. | Fr. | Grants Pass |
| Dodge, Randolph Orvill | Agri. | Spec. | Corvallis |
| Dodge, Ray Edgar | Com. | Soph. | Portland |
| Dodge, Seth B. | Com. | Soph. | Newberg |
| Dolton, Henry Benjamin | Agri. | Jr. | Eagle Rock City, Cal. |
| Domingo, Lodisloo Leones | Agri. | Voc. | Philippine Islands |
| Donaca, Natheel Rena | Com. | Sr. | Albany |
| Donaldson, John Manley | Agri. | Jr. | Riverton |
| Dooley, J. Knapp | Com. | Fr. | Baker |
| Doolittle, Dorothy Agnes | H.Ec. | Fr. | Corvallis |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-------------------------------|-------------------|-------------|----------------------------|
| Doran, Claude Russel | Agri. | Jr. | Burlington, Wash. |
| Dormer, De Witt W. | Agri. | Jr. | Covina, Cal. |
| Dorn, Ruth | H.Ec. | Sr. | Pasadena, Cal. |
| Dotson, Mable Leora | H.Ec. | Fr. | Salem |
| Dougherty, Ralph Preston | I.A. | Spec. | Corvallis |
| Dowsett, Gertrude Lenore | H.Ec. | Soph. | Gresham |
| Dragoo, Charles Victor | Agri. | Soph. | Spokane, Wash. |
| Draper, Howard C. | Agri. | Sr. | Highland, Cal. |
| Dregnie, Edward Benj. | Com. | Fr. | Barlow |
| Dreseer, Angeline | H.Ec. | Jr. | Ordino, Idaho |
| Drew, Adelaide | Com. | Spec. | Plymouth, England |
| Drew, Carl William | Com. | Fr. | Los Angeles, Cal. |
| Drew, Hozy Dean | Com. | Jr. | Castle Rock, Wash. |
| Drewett, George A. | E.E. | Sr. | Prairie City |
| Drews, Arnold Henry | M.E. | Fr. | Portland |
| Drown, Ashley M. | Agri. | Voc. | Corvallis |
| Druschel, Mildred Dorothy | H.Ec. | Soph. | Portland |
| Drayden, Winfield Joseph | Com. | Sr. | Oakland, Cal. |
| Dubiver, Miriam Faye | Phar. | Soph. | Portland |
| Duffy, Michael Donald | E.E. | Jr. | Portland |
| Duke, George | Com. | Jr. | Sutherland |
| Dull, Joy William | C.E. | Fr. | Lebanon |
| Dunbabin, David Joseph | M.E. | Spec. | Baker |
| Dunbar, Helene Mary | Com. | Fr. | Ontario |
| Duncan, Clifford Woodard | Ch.E. | Jr. | Portland |
| Duncan, Gordon Alex | For. | Jr. | Portland |
| Dungan, Ruth Phillips | H.Ec. | Sr. | Portland |
| Dunham, Mark Waitman | For. | Jr. | Portland |
| Dunlap, Percy Howe | Agri. | Spec. | Mt. Vernon, Wash. |
| Dunn, Norman Richard | Com. | Fr. | Nelson, B. C. |
| Dunning, Orpha J. | H.Ec. | Sr. | Stanfield |
| Du Priest, Jr., John Randolph | M.E. | Soph. | Corvallis |
| Duvant, Richard Kenneth | C.E. | Fr. | McMinnville |
| Durbin, Frank W. | Agri. | Jr. | Salem |
| Durbin, Fred Henry | Agri. | Fr. | Orange, Cal. |
| Durbin, Sarah Thelma | H.Ec. | Soph. | Waldport |
| Du Rette, Cecil Alexander | M.E. | Sr. | Gervais |
| Durgin, Tessie | Com. | Fr. | Corvallis |
| Dutt, Purna | Agri. | Fr. | Yuba City, Cal. |
| Dutt, Ranendra Krishna | Agri. | Jr. | Berkeley, Cal. |
| Dutton, Jean Edward | Com. | Fr. | Wasco |
| Dyer, Joseph Melville | M.E. | Jr. | Astoria |
| Dyer, Leta | H.Ec. | Fr. | Mayville |
| Dyer, Orva Edwards | Agri. | Fr. | Mayville |
| Dyer, Wilma | Com. | Fr. | Mayville |
| Dykeman, Walter E. | Com. | Voc. | Lakeview |
| Dykstra, Theodore Peter | Agri. | Sr. | Portland |
| Eager, Alvin | Mines | Fr. | Portland |
| Eagles, Elizabeth Patricia | H.Ec. | Soph. | Albany |
| Eames, De Lin | Mines | Soph. | Cordova, Alaska |
| Earl, Willis Elzie | Phar. | Spec. | Reedsport |
| Eastman, Florence Henrietta | Com. | Soph. | Albany |
| Eastman, Olivene Vernice | Com. | Soph. | Albany |
| Eaton, Claude Harland | Com. | Fr. | Wasco |
| Eckstein, Henrietta | Phar. | Fr. | Portland |
| Edgerton, Harry Loren | For. | Soph. | Grants Pass |
| Edmunds, Milton Ray | For. | Fr. | McMinnville |
| Edwards, Addison Hurciel | Phar. | Spec. | Corvallis |
| Edwards, Ewart S. | M.E. | Soph. | Dallas |
| Edwards, Floyd Marvin | Agri. | Jr. | Three Hills, Alberta, Can. |
| Edwards, Miles Lowell | E.E. | Soph. | Tillamook |
| Effinger, Frances Lucretia | H.Ec. | Fr. | Portland |
| Eggleston, Fitzhugh L. | Agri. | Jr. | Brownsville |
| Eichelberger, Donald O. | Ch.E. | Fr. | Yakima |
| Eid, Theodore Rudolph | Com. | Fr. | Canby |
| Eikelman, Edward Carlyle | Com. | Soph. | San Bernardino, Cal. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|---------------------------|-------------------|-------------|----------------------|
| Eikelman, John Albert | Agri. | Sr. | San Bernardino, Cal. |
| Eilertsen, John Leonard | Agri. | Soph. | Clatskanie |
| Ekern, Andrew Hostmark | Com. | Fr. | San Diego, Cal. |
| Ekstrom, A. Le Roy | M.E. | Sr. | Beaverton |
| Elbert, George | M.E. | Jr. | Salem |
| Elde, Chas. Gage | Agri. | Soph. | Mt. Vernon, Wash. |
| Eldridge, Nellie Bell | Com. | Fr. | Pendleton |
| Eliassen, John | M.A. | Voc. | Astoria |
| Elliott, Jack Hale | Ch.E. | Fr. | Brownsville |
| Elliott, Jack M. | Com. | Spec. | Portland |
| Elliott, John L. | E.E. | Jr. | Klamath Falls |
| Elliott, Virgil F. | Agri. | Voc. | Bridgeport |
| Ellis, Gertrude Grace | H.Ec. | Soph. | Dallas |
| Ellis, Jesse D. | M.E. | Jr. | Albany |
| Ellis, Lee Dora | Com. | Jr. | La Grande |
| Ellis, Lloyd Wayne | Phar. | Spec. | Jefferson |
| Ellis, Myrtle E. | H.Ec. | Voc. | Valsetz |
| Ellis, Walter Raymond | E.E. | Jr. | Portland |
| Elmer, Katherine Delphine | Voc.Ed. | Jr. | Corvallis |
| Elmore, John Clifford | Agri. | Jr. | Star, Idaho |
| Elmore, Pitts | E.E. | Soph. | Santa Maria, Cal. |
| Emmel, Royal Charles | Agri. | Jr. | Salem |
| Emmett, Paul Hugh | Ch.E. | Sr. | Portland |
| Emmons, Richard Carpenter | Com. | Spec. | Phoenix, Ariz. |
| Empo, Oney Mathias | M.A. | Voc. | Astoria |
| Emrick, Daniel George | Mines | Jr. | Hillsboro |
| Enegren, Ellen Elyda | Com. | Fr. | Marshfield |
| Engen, Minnie | Agri. | Spec. | Patterson, Cal. |
| Enger, Edgar Elliott | Com. | Soph. | Brownsville |
| Enghouse, Clarence Alvin | M.E. | Soph. | Clackamas |
| Englehart, Marjorie Eve | Com. | Fr. | Portland |
| English, Felix A. | C.E. | Jr. | Salem |
| Enschede, Martin Henry | E.E. | Fr. | Forest Grove |
| Entermille, Frances W. | Com. | Fr. | Baker |
| Epps, Grady David | Mines | Sr. | Hinton, Okla. |
| Erickson, Estelle Sarah | Com. | Fr. | Aberdeen, Wash. |
| Erickson, John Ragnor | Com. | Soph. | Astoria |
| Erickson, Chester Adrain | M.E. | Soph. | Spokane, Wash. |
| Erickson, Walter S. | Com. | Jr. | Warren |
| Erwin, Dan Brewer | C.E. | Jr. | Hillsboro |
| Erwin, Geo. Lewis | Agri. | Jr. | Bozeman, Mont. |
| Erwin, Hallie Mae | Voc.Ed. | Fr. | Marshfield |
| Esch, Ernest Joseph | Agri. | Voc. | Portland |
| Eslinger, Hazel | H.Ec. | Jr. | Grass Valley |
| Estergreen, Victor Linne | Agri. | Voc. | Everson, Wash. |
| Estes, Wm. Lester | Phar. | Spec. | Imnaha |
| Etchells, William Albert | E.E. | Soph. | Portland |
| Evans, Herbert | Com. | Spec. | Monmouth |
| Everett, Charles Franklin | Agri. | Voc. | Marshfield |
| Everett, Perl Allen | Phar. | Fr. | Wasco |
| Everhart, Leslie Edward | E.E. | Soph. | Portland |
| Everhart, Reva May | H.Ec. | Fr. | Molalla |
| Ewing, Riley | Agri. | Fr. | Mt. Vernon, Wash. |
| Ezzell, Marvin Aubon | Agri. | Jr. | Wilson, N. C. |
| Fanshier, Roy A. | Agri. | Soph. | Pendleton |
| Faltus, Anton Joe | Agri. | Voc. | Scio |
| Farlow, Leonard Henry | Phar. | Soph. | Wamic |
| Farnham, Hugh Wilson | Agri. | Spec. | Hillsboro |
| Farra, Earl Merit | Com. | Fr. | Paisley |
| Farrell, Miller Starr | M.E. | Sr. | Portland |
| Farris, Wm. Joseph | Com. | Soph. | Duncan |
| Faruqui, Mumtaz Ahmad | E.E. | Soph. | Lahore, India |
| Faucett, Philip Henry | Ch.E. | Soph. | Stanfield |
| Faucett, Robert Lund | Com. | Sr. | Stanfield |
| Faucett, Ruth Elizabeth | H.Ec. | Fr. | Stanfield |
| Faulconer, Alda Betty | Com. | Soph. | Sheridan |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| Faurie, Pierre La Verne | Agri. | Soph. | Molalla |
| Faust, George Leo | Mines | Fr. | Portland |
| Fawcett, Donald Cloud | Ch.E. | Spec. | Grangemont, Idaho |
| Fawcett, Paul West | Com. | Fr. | Prescott, Wash. |
| Fearnley, Walter Le Veair | Com. | Soph. | Portland |
| Feike, Geneva Alice | H.Ec. | Sr. | Portland |
| Feike, Vivian A. | H.Ec. | Soph. | Portland |
| Feikert, Ray Chas. | M.A. | Voc. | Corvallis |
| Fendall, Kenneth DuVall | Agri. | Sr. | Newberg |
| Fendall, Lois Edwina | Voc.Ed. | Fr. | Newberg |
| Fenstermacher, Harry | For. | Jr. | Porterville, Cal. |
| Ferguson, Cleown K. | Phar. | Spec. | Newberg |
| Ferguson, Della | Com. | Fr. | Pendleton |
| Ferguson, Dwight Hayden | Agri. | Jr. | Portland |
| Ferguson, Maud | H.Ec. | Soph. | Walla Walla, Wash. |
| Ferguson, Roy Dan | Com. | Voc. | Monmouth |
| Ferguson, Ruth Gladys | H.Ec. | Sr. | Portland |
| Ferrier, Wm. Kenneth | Ch.E. | Jr. | Portland |
| Feyrer, Dorothy Katharine | H.Ec. | Fr. | Molalla |
| Ficke, Paul Adolph | Agri. | Voc. | Payette, Idaho |
| Figgins, Esther Anne | Com. | Fr. | Portland |
| Finch, Alton Harold | Agri. | Fr. | Bishop, Cal. |
| Finch, Dora Alice | H.Ec. | Sr. | Portland |
| Findley, Jean | Com. | Jr. | Portland |
| Fischer, Ernest Edward | For. | Jr. | Milwaukie |
| Fish, Edward Hinsdale | Agri. | Jr. | Bandon |
| Fisher, Adrian Marciel | Com. | Soph. | Roseburg |
| Fisher, Henry Clay | Mines | Sr. | Orchards, Wash. |
| Fisher, John Norval | Com. | Fr. | Stayton |
| Fisher, Leland Walden | Com. | Fr. | Corvallis |
| Fisher, Myrtle Muriel | Com. | Jr. | Portland |
| Fisher, Roberta K. | Com. | Soph. | Weiser, Idaho |
| Fitch, Naomi | H.Ec. | Sr. | Ames, Iowa |
| Fitzgerald, James Edward | C.E. | Sr. | Sioux City, Iowa |
| Fitzgerald, Leonard Arthur | Com. | Spec. | Independence |
| Fjeldsted, Melford W. | Agri. | Jr. | Preston, Idaho |
| Fladeland, Albert | Agri. | Voc. | Charleston, Wash. |
| Flagg, Lawrence Miner | E.E. | Jr. | Olympia, Wash. |
| Fleener, Hazel Ilene | H.Ec. | Soph. | Salem |
| Fletcher, Flora Elizabeth | H.Ec. | Fr. | Salem |
| Fletcher, Linna E. | H.Ec. | Fr. | Vancouver, Wash. |
| Flinn, Helen Jane | H.E. | Soph. | The Dalles |
| Floyd, Roy Earl | E.E. | Jr. | Enterprise |
| Flynn, Marie | Voc.Ed. | Jr. | Portland |
| Fogle, Howard Daniel | E.E. | Fr. | Corvallis |
| Folquet, George Henry | Com. | Fr. | Woodburn |
| Folsom, Jean Jaques | Voc.Ed. | Sr. | Pendleton |
| Fones, Gilbert Noel | Agri. | Soph. | Corvallis |
| Forbes, Alice | Com. | Spec. | Salem |
| Forbes, Richard Henry | Ch.E. | Soph. | Corvallis |
| Forbes, Robert Walston | Com. | Fr. | Aberdeen, Wash. |
| Ford, Ernest E. | E.E. | Soph. | Tillamook |
| Ford, Frances Wetherbee | H.Ec. | Fr. | Weiser, Idaho |
| Ford, J. Kenneth | Agri. | Sr. | Union |
| Forest, Harriet L. | Voc.Ed. | Sr. | Santa Maria, Cal. |
| Forest, Mildred Marjorie | H.Ec. | Jr. | Santa Maria, Cal. |
| Forney, William Haley | | Opt. | Portland |
| Forest, Raymond Thomas | E.E. | Jr. | Portland |
| Forrest, Stewart Robert | For. | Spec. | Rolling Bay, Wash. |
| Fors, Felix Frederick | Com. | Soph. | Portland |
| Forseth, Cora Nathalia | H.Ec. | Sr. | Portland |
| Foster, Ada | H.Ec. | Fr. | Corvallis |
| Foster, Harold Monroe | E.E. | Fr. | Orange, Cal. |
| Foster, John Jacob | Com. | Soph. | Portland |
| Foster, Lucile | H.Ec. | Fr. | Corvallis |
| Foster, Wm. Clarence | E.E. | Fr. | Portland |

| Name | Curriculum | Rank | Home Address |
|-----------------------------|------------|-------|---------------------|
| Fountain, Jack | M.E. | Fr. | Corvallis |
| Fountain, James Lee | Agri. | Voc. | Waterville |
| Fowler, Elizabeth | H.Ec. | Spec. | Rogue River |
| Fowler, John Lambertson | Phar. | Fr. | Ashland |
| Fowler, Thelma H. | Com. | Fr. | Toledo |
| Fragmeier, Freda Lydia | Com. | Voc. | Portland |
| Francis, Nellie Hazel | H.Ec. | Spec. | Corvallis |
| Frantz, Jesse Dale | E.E. | Jr. | Los Angeles, Cal. |
| Frazier, M. Ethel | Com. | Sr. | Salem |
| Frease, Helen Miriam | H.Ec. | Sr. | Corvallis |
| Fredrickson, Albin Fritjob | Com. | Spec. | Aurora |
| Freeland, Elaine Olive | H.Ec. | Jr. | Ione |
| Freeman, George Forest | M.A. | Voc. | Stayton |
| Freeman, Greeta Marie | H.Ec. | Fr. | Moro |
| Freeman, Rollie | Agri. | Voc. | Ashland |
| Freeman, Vernon Neale | Com. | Sr. | Moro |
| Freitas, Frances Edith | H.Ec. | Sr. | Corvallis |
| Fremming, Rolf W. | M.E. | Jr. | Priest River, Idaho |
| French, Helen Frances | H.Ec. | Jr. | Corvallis |
| Freydig, Frances Hortense | Com. | Fr. | Portland |
| Friar, Bler H. | Com. | Voc. | Dallas |
| Fritz, Helen F. | H.Ec. | Sr. | National City, Cal. |
| Froom, Kathren | H.Ec. | Jr. | Athena |
| Fulkerson, M. Evelyn | H.Ec. | Sr. | Corvallis |
| Fulkerson, Hazel | H.Ec. | Sr. | Corvallis |
| Fuller, Cecil Robb | Mines | Soph. | Portland |
| Fuller, Lowell W. | Agri. | Sr. | Fresno, Cal. |
| Fullington, Mary W. | Voc.Ed. | Sr. | Seattle, Wash. |
| Fulp, Desmond Thomas | Agri. | Fr. | Cove |
| Fulton, James | M.A. | Voc. | The Dalles |
| Fulton, Robert Avery | Ch.E. | Fr. | Corvallis |
| Fulton, Robert | Com. | Jr. | Bend |
| Furnish, Blanche Mildred | H.Ec. | Jr. | Pendleton |
| Fuselman, Mrs. Jeannette B. | | Opt. | Corvallis |
| Gabbert, Holmes Briston | Com. | Voc. | Myrtle Creek |
| Gabel, Harold Theodore | Phar. | Fr. | The Dalles |
| Gain, Mercy Jane | Com. | Spec. | Corvallis |
| Gaines, Henry Ernest | Agri. | Sr. | Honea Path, S. C. |
| Gaither, James Terrence | Com. | Sr. | Toledo |
| Galbraith, Huxley Lyell | Agri. | Fr. | Silverton |
| Gale, John Irving | Agri. | Voc. | Turner |
| Gale, Robert Dimon | Agri. | Voc. | Turner |
| Gammon, Francis Dean | I.A. | Fr. | Tacoma, Wash. |
| Gano, Roy Thornten | Agri. | Voc. | Clear Water, Minn. |
| Ganoe, Donald | Agri. | Jr. | Ogden, Iowa |
| Gaona, Elpidio Delmendo | Agri. | Sr. | Philippine Islands |
| Garber, Richard Otis | Com. | Soph. | Freewater |
| Gardiner, B. Edward | E.E. | Fr. | Oregon City |
| Gardner, Earl Andrew | Agri. | Soph. | Puyallup, Wash. |
| Gardner, Jack Frank | M.A. | Voc. | Wallace, Idaho |
| Garfield, Carroll Camilla | Voc.Ed. | Fr. | Bandon |
| Garhardt, Malcolm E. | Com. | Jr. | Nobleville, Ind. |
| Garity, John Raymond | Com. | Soph. | La Grande |
| Garman, John C. | E.E. | Sr. | Portland |
| Garnjobst, Laura Florian | H.Ec. | Sr. | Salem |
| Garrison, Gladys Marie | H.Ec. | Soph. | Scappoose |
| Garst, Clyde Winder | Agri. | Sr. | Dayton, Ohio |
| Garvin, Coral Lillian | Phar. | Jr. | Corvallis |
| Garvin, Golda Myra | Com. | Spec. | Corvallis |
| Garvin, William Wallis | Phar. | Fr. | Corvallis |
| Gaskill, Chas. Orvis | Agri. | Voc. | Corvallis |
| Gasman, Gerda | H.Ec. | Voc. | Spokane, Wash. |
| Gates, Fred Emerald | | Opt. | Corvallis |
| Geertsen, Francis Golden | Com. | Fr. | Union |
| Geiberger, Edna Alvina | Com. | Jr. | Tualatin |
| Geiberger, Ray Chas. | Agri. | Sr. | Tualatin |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|----------------------|
| Geiberger, William John | E.E. | Soph. | Tualatin |
| Genoe, Evelyn Beatrice | Com. | Fr. | Portland |
| George, Henry Lawrence | Agri. | Spec. | Cushman |
| George, Theodore Edward | Phar. | Soph. | La Grande |
| Gerhart, Charles Piemont | Agri. | Fr. | San Bernardino, Cal. |
| Gerhart, Thomas Meredith | Mines | Soph. | San Bernarino, Cal. |
| Gerty, Clair Eugene | E.E. | Soph. | Astoria |
| Gervais, Louis | For. | Jr. | Sutherlin |
| Gex, Joe Anderson | E.E. | Fr. | Corvallis |
| Gibbard, Kathryn Louise | H.Ec. | Soph. | Salem |
| Gibson, Albert Sylvester | Com. | Soph. | Ontario |
| Giebisch, Gordon | C.E. | Jr. | Toledo |
| Giem, Ross N. | Agri. | Voc. | Corvallis |
| Giesy, Ralph Griffith | C.E. | Soph. | Portland |
| Giffen, Bernal | Agri. | Voc. | Fresno, Cal. |
| Gilbert, Philip Barton | For. | Jr. | Long Beach, Cal. |
| Gildersleeve, Charles Leland | C.E. | Sr. | Toledo |
| Gilkerson, William Bachelor | I.A. | Jr. | Hood River |
| Gilkey, Franklin E. | Agri. | Jr. | Scio |
| Gilkison, Theodore | Com. | Fr. | North Powder |
| Gill, Amory Tingle | Com. | Soph. | Salem |
| Gill, Bessie | Phar. | Jr. | Los Angeles, Cal. |
| Gill, Eugene Luke | Agri. | Soph. | Salem |
| Gill, Harold David | E.E. | Jr. | Portland |
| Gill, Jessie June | H.Ec. | Jr. | Los Angeles, Cal. |
| Gill, Mildred | H.Ec. | Soph. | Salem |
| Gill, Prem Singh | Ch.E. | Sr. | Punjab, India |
| Gill, Whitney George | Agri. | Sr. | Salem |
| Gillam, Herman P. | E.E. | Jr. | Amity |
| Gillette, Edith | Voc.Ed. | Sr. | La Verne, Cal. |
| Gillis, Gene Alan | Ch.E. | Jr. | Portland |
| Gilstrap, Alice Gertrude | H.Ec. | Sr. | Portland |
| Gilstrap, Clarence Lee | Phar. | Soph. | Portland |
| Ginder, Paul Edward | Com. | Fr. | Los Angeles, Cal. |
| Giroux, Fred Julius | M.A. | Voc. | Rapid City, S. D. |
| Gisselberg, Victor | Mines | Soph. | Birkenfeld |
| Gist, Floyd L. | Agri. | Jr. | Pomona, Cal. |
| Gittings, M. Jeanette | H.Ec. | Fr. | Camas, Wash. |
| Givan, Fay Augustas | Agri. | Jr. | Medford |
| Glaser, Frank Theodore | Com. | Fr. | Lebanon |
| Glaser, John | Agri. | Spec. | Lebanon |
| Glasscock, Edward Moter | C.E. | Fr. | Mt. Vernon |
| Glassey, Theodore William | Agri. | Soph. | Albany |
| Glovan, Joseph Stony | Agri. | Sr. | Bellingham, Wash. |
| Gloyd, Marion | Com. | Voc. | Portland |
| Gnose, Ira Groford | For. | Fr. | Anaconda, Mont. |
| Gnose, James Phil | Com. | Fr. | Anaconda, Mont. |
| Goddard, M. Marcellene | Com. | Fr. | Portland |
| Goff, Henry Willis | Phar. | Soph. | Forest Grove |
| Goff, Lorena | H.Ec. | Soph. | Corvallis |
| Goff, Othel Guy | E.E. | Jr. | Corvallis |
| Golden, Annabelle Isabelle | Com. | Soph. | Salem |
| Golden, Virgil Thomas | Com. | Soph. | Salem |
| Goldrainer, James Charles | Com. | Fr. | Portland |
| Goldstaub, Josephine Pearl | Voc.Ed. | Jr. | Portland |
| Gooch, Sylvia Geneva | Phar. | Jr. | Mill City |
| Gooch, Willard T. L. | Agri. | Soph. | Rivera, Cal. |
| Good, Hugh David | Agri. | Fr. | San Diego, Cal. |
| Good, Merrill R. | C.E. | Sr. | Cut Bank, Mont. |
| Good, Mervin R. | Com. | Jr. | Gresham |
| Goodale, Chester Harold | Phar. | Jr. | Warrenton |
| Goodale, Harold Carlton | Agri. | Sr. | Anaheim, Cal. |
| Goodale, Kenneth Frank | Com. | Soph. | Covina, Cal. |
| Goodale, Ralph Herbert | Agri. | Jr. | Anaheim, Cal. |
| Goodlin, Emil Clair | Agri. | Soph. | Junction City |
| Goodman, Verne | Phar. | Fr. | Lawen |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|---------------------------|-------------------|-------------|---------------------|
| Goodrich, George Randolph | Agri. | Fr. | Yamhill |
| Goodnight, Victor Lee | C.E. | Spec. | Portland |
| Gorden, Robert R. | Agri. | Jr. | Fort Kenneth |
| Gorham, Vivian Alice | Com. | Fr. | Missoula, Mont. |
| Gorris, Margaret | Phar. | Jr. | Springfield |
| Goshon, Howard Theodore | C.E. | Jr. | Corvallis |
| Gosslin, Phillip | E.E. | Fr. | Portland |
| Gottfried, Wallace R. | M.A. | Voc. | Falls City |
| Gottlieb, Abraham | Agri. | Voc. | Portland |
| Goudy, Elmer Ray | Com. | Jr. | Portland |
| Gould, Curtis E. | For. | Sr. | Hood River |
| Gould, Margaret Mary | Com. | Fr. | Hood River |
| Gould, Mrs. Mary Lundy | | Opt. | Hood River |
| Gradon, Florence Walter | H.Ec. | Soph. | Portland |
| Graef, John Anton | Com. | Soph. | Portland |
| Gragasin, Calixto | Phar. | Jr. | Corvallis |
| Gragg, Bessie | H.Ec. | Sr. | Corvallis |
| Gragg, George S. | Agri. | Spec. | Corvallis |
| Graham, Douglas Cleon | Com. | Spec. | Portland |
| Granrud, Harold H. | Ch.E. | Sr. | Tacoma, Wash. |
| Grant, Mildred H. | H.Ec. | Sr. | Multnomah |
| Graves, George Dewey | Com. | Soph. | Portland |
| Graves, Raymond Fred | Com. | Jr. | Filler, Idaho |
| Gray, Erma Bell | H.Ec. | Fr. | Corvallis |
| Gray, E. Glenva | H.Ec. | Sr. | Portland |
| Gray, Gertrude | Com. | Fr. | Portland |
| Gray, John Clarence | E.E. | Jr. | Santa Rosa, Cal. |
| Gray, Joseph A. | M.E. | Sr. | Corvallis |
| Gray, Raymond L. | Phar. | Fr. | Portland |
| Gray, Richard Wallace | Agri. | Fr. | Calistoga, Cal. |
| Gray, William A. | M.A. | Voc. | Turner |
| Green, Allen Theodore | Agri. | Fr. | Milwaukie |
| Green, Ferris Milton | Agri. | Sr. | Corvallis |
| Green, Fred W. | Agri. | Voc. | Alturas, Cal. |
| Green, James Velpeau | C.E. | Fr. | Crawfordsville |
| Green, Julia | H.Ec. | Sr. | Alturas, Cal. |
| Green, Max | C.E. | Spec. | Alturas, Cal. |
| Greene, Ardath Elizabeth | H.Ec. | Fr. | Portland |
| Greene, Florence | | Opt. | Portland |
| Greene, Forrest Barton | C.E. | Jr. | Portland |
| Gregg, Lloyd B. | Com. | Sr. | Turner |
| Gregg, Vernon L. | Agri. | Sr. | Anaheim, Cal. |
| Grogoire, Oscar James | Agri. | Voc. | Portland |
| Grey, Alice Catherine | Com. | Fr. | Portland |
| Gribble, Samuel Oliver | Com. | Soph. | Aurora |
| Gribskov, Valborg | H.Ec. | Sr. | Junction City |
| Grider, Eddie Franz | Com. | Jr. | McCleary, Wash. |
| Griffee, Willet E. | For. | Jr. | Corvallis |
| Griffeth, Basil Arthur | E.E. | Fr. | Portland |
| Griffin, Earl Sidney | Com. | Soph. | Caldwell, Idaho |
| Griffin, Guy Roy | Agri. | Voc. | Springfield |
| Griggs, Cecil Lawrence | Agri. | Soph. | Eugene |
| Grilley, Al Caldwell | E.E. | Fr. | Portland |
| Grimm, Frank Lawrence | C.E. | Jr. | Corvallis |
| Grimshaw, Jean B. | H.Ec. | Sr. | Anaconda, Mont. |
| Groce, Eutsace Cecil | For. | Spec. | Troutdale |
| Groff, Edgar Lee | Agri. | Voc. | Oak Mills, Kansas |
| Groshong, Harlan Vaughn | Agri. | Fr. | Eugene |
| Grove, Clark Donald | M.E. | Jr. | Corvallis |
| Grove, Maynard Oren | E.E. | Jr. | Corvallis |
| Grover, James Richard | For. | Spec. | Newport, Wash. |
| Groves, Frank Wm. | Agri. | Sr. | Lebanon |
| Groves, Hiram Raymond | Phar. | Soph. | Lebanon |
| Groves, Roshal M. | Agri. | Sr. | Lebanon |
| Grubbe, Kenneth Harold | Com. | Fr. | Albany |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|---------------------|
| Grubbe, Mrs. Lela Traylor | H.Ec. | Jr. | Corvallis |
| Grubbe, Lloyd Ivan | M.A. | Voc. | Corvallis |
| Grubb, Wendell | I.A. | Sr. | Halfway |
| Guerber, Raymond Lloyd | Phar. | Fr. | Hillsboro |
| Guimban, Frank D. | Agri. | Fr. | Philippine Islands |
| Gunder, William Clyde | I.A. | Fr. | Puyallup, Wash. |
| Gunderson, Louis | Com. | Voc. | Mt. Vernon, Wash. |
| Gunter, Myra Marie | Voc.Ed. | Jr. | Grants Pass |
| Gunter, Paul Albert | C.E. | Spec. | Gunter |
| Gust, Robert Louis | Agri. | Voc. | Edmonds, Wash. |
| Guthrie, Bernard M. | M.E. | Fr. | Corvallis |
| Hackett, Edward Ellen | M.A. | Spec. | Centralia, Wash. |
| Haddy, Robert Albert | Com. | Soph. | Portland |
| Haevernick, Ernest Jerome | Com. | Soph. | Silverton |
| Hagedorn, Oral Orvan | Phar. | Soph. | Salem |
| Hague, Raymond Joffrey | Agri. | Spec. | Corvallis |
| Hahn, Augusta Martha | H.Ec. | Jr. | Corvallis |
| Hahn, Rose Marie | H.Ec. | Jr. | Corvallis |
| Haight, Lillian Mae | Com. | Spec. | Holland, Mich. |
| Haight, Mary Frances | Agri. | Sr. | Saginaw |
| Hailstone, William | Agri. | Voc. | Corvallis |
| Haines, Eunice R. | H.Ec. | Fr. | Portland |
| Hailip, Roy Franklin | Mines | Spec. | Willowbrook, Cal. |
| Haldeman, William F. | C.E. | Fr. | Cottage Grove |
| Hale, Millard Paul | For. | Jr. | Pasadena, Cal. |
| Hale, Ralph I. | Agri. | Spec. | Breckenridge, Colo. |
| Hales, Owen John | Com. | Fr. | Havre, Mont. |
| Haley, Susan B. | Com. | Sr. | New York, N. Y. |
| Hall, Jr., Fred D. | Com. | Fr. | Huntington |
| Hall, Hazel Audrey | H.Ec. | Jr. | Albany |
| Hall, John Hubert | Com. | Jr. | Portland |
| Hall, Lucian Joshua | Com. | Soph. | Corvallis |
| Hall, Melvin Louis | Com. | Jr. | Portland |
| Hall, Neill Dawson | M.E. | Sr. | Woodburn |
| Hall, Oliver Thomas | Agri. | Voc. | Corvallis |
| Hall, Richard Frederick | Agri. | Jr. | Davis, Cal. |
| Hall, Teddie Locksley | Agri. | Voc. | Hermiston |
| Hall, Warner, Chas. | Phar. | Fr. | Oregon City |
| Halloin, William Gustave | Ch.E. | Fr. | Green Bay, Wis. |
| Hamblen, Kenneth Earle | Mines | Sr. | Portland |
| Hamid, Chandhan A. | M.E. | Soph. | Lahore, India |
| Hamill, Robert Michel | Mines | Jr. | Corvallis |
| Hamilton, Blanchus Angeli | | Opt. | Anacortes, Wash. |
| Hamilton, Mrs. Gladys | H.Ec. | Spec. | Shedd |
| Hamilton, Mary Isabella | H.Ec. | Soph. | Albany |
| Hamilton, Robert Fay | M.A. | Voc. | Shedd |
| Hamlin, Ava Beatrice | Com. | Fr. | Corvallis |
| Hamlin, Carroll Everett | Com. | Soph. | Corvallis |
| Hamersley, Ward | E.E. | Soph. | Alsea |
| Hamner, Dyson Swenson | M.E. | Jr. | Corvallis |
| Hamner, Howard William | Com. | Fr. | Corvallis |
| Hamner, Jordan Augustus | Mines | Fr. | Corvallis |
| Hanger, Michael Reid | E.E. | Soph. | Portland |
| Hann, Ellen | H.Ec. | Soph. | Orland, Cal. |
| Hansen, Gertrude Elise | Phar. | Soph. | Portland |
| Hansen, Morton Herman | Phar. | Soph. | Junction City |
| Hansen, Opal Beatrice | H.Ec. | Jr. | Boone, Iowa |
| Happold, Pauline | Com. | Soph. | Heppner |
| Harbison, Henry Samuel | M.E. | Fr. | Corvallis |
| Harbison, Leslie R. | Com. | Fr. | Corvallis |
| Hardebeck, Clarence William | M.E. | Sr. | Dilley |
| Harden, Glenn Robert | Phar. | Jr. | Corvallis |
| Hardgrove, Rennie Robert | Com. | Voc. | Helena, Mont. |
| Hardie, Alex D. | Agri. | Jr. | Condon |
| Harding, Margaret Mehegan | Com. | Soph. | Tacoma, Wash. |
| Hardy, Jennat Merab | H.Ec. | Fr. | Roseburg |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|---------------------|
| Hardy, Melbourne Edward | Agri. | Spec. | San Jose, Cal. |
| Hare, Decatur Bruce | For. | Voc. | Tillamook |
| Hare, Trevor Bertie | Phar. | Spec. | Tillamook |
| Harkenrider, George William | Phar. | Fr. | Estacada |
| Harlocker, Fred Lentner | Com. | Soph. | Coquille |
| Harnisch, Albert | I.A. | Fr. | Albany |
| Harnisch, Henry | M.E. | Jr. | Albany |
| Harpe, Rufus Whitney | Agri. | Spec. | Freewater |
| Harper, Alice Winifred | H.Ec. | Fr. | Milton |
| Harper, Earl Andrew | Agri. | Voc. | Seattle, Wash. |
| Harper, Mamie A. | | Opt. | Corvallis |
| Harper, Vernon Willard | M.E. | Sr. | Corvallis |
| Harper, William George | Agri. | Sr. | Corvallis |
| Harrington, Maurice Stanford | Mines | Fr. | Oregon City |
| Harris, Arthur J. | Agri. | Jr. | Corvallis |
| Harris, Esther Herschel | H.Ec. | Sr. | Fresno, Cal. |
| Harris, Herbert V. | E.E. | Sr. | Seaside |
| Harris, James William | Agri. | Spec. | Cove |
| Harris, Lillian | Com. | Jr. | Portland |
| Harris, Marian Kellernan | Agri. | Spec. | Boston, Mass. |
| Harris, Mildred Susan | H.Ec. | Fr. | Portland |
| Hart, Moses | Agri. | Voc. | Corvallis |
| Hartman, Henry | | Opt. | Wenatchee, Wash. |
| Hartung, Dorothy Harriet | H.Ec. | Sr. | Eugene |
| Hartung, Frederick Elmer | Agri. | Sr. | Eugene |
| Hartzell, Wilbur W. | Agri. | Soph. | Medford |
| Harvey, Andrew F. | M.E. | Soph. | Pendleton |
| Harvey, Ruth Francis | Voc.Ed. | Soph. | Portland |
| Harvison, Thelma Beatrice | Voc.Ed. | Jr. | Bard, Cal. |
| Hasbrouck, Harold Eugene | Agri. | Soph. | Nampa, Idaho |
| Haseman, Verna Luella | H.Ec. | Fr. | Mill City |
| Haskell, Eleanor Lorada | H.Ec. | Jr. | Portland |
| Haslem, Walter L. | Com. | Jr. | Cathlamet, Wash. |
| Haslett, Robert Edward | Phar. | Fr. | Corvallis |
| Hatch, Paul Fredrick | E.E. | Fr. | Boardman |
| Hathaway, Gail Abner | C.E. | Sr. | Harrisburg |
| Hathaway, Otto Emerson | Com. | Sr. | Corvallis |
| Hathaway, Rudolph Edison | Agri. | Jr. | Corvallis |
| Hauck, Ralph H. | Com. | Fr. | Bend |
| Hauser, Maurice Gerald | C.E. | Soph. | Estacada |
| Hauge, Osmond J. | Agri. | Sr. | Woodburn |
| Hawk, Howard Austin | Agri. | Fr. | Bellingham, Wash. |
| Hawk, Ralph Ellsworth | Agri. | Voc. | Bellingham, Wash. |
| Hawke, Kenneth McBride | E.E. | Jr. | Forest Grove |
| Hawkes, Helen Josephine | Voc.Ed. | Soph. | Hood River |
| Hawley, Charles | M.E. | Soph. | Multnomah |
| Hawley, Lawrence Glenn | Agri. | Soph. | Boise, Idaho |
| Hawley, Thomas Gardner | Ch.E. | Fr. | Multnomah |
| Hayden, Richard Hugh | Com. | Fr. | Bend |
| Haynes, Joe David | Agri. | Jr. | The Dalles |
| Haynes, Merle Gilbert | Agri. | Soph. | Chino, Cal. |
| Haynes, Ralph F. | E.E. | Soph. | Kent |
| Haynie, William Claire | Phar. | Soph. | Halfway |
| Hayter, Chas. C. | M.E. | Fr. | Dallas |
| Hazen, Homer Harold | Agri. | Soph. | Snohomish, Wash. |
| Hazen, Oliver Miner | Com. | Jr. | Snohomish, Wash. |
| Hazard, Donald S. | Agri. | Soph. | Whittier, Cal. |
| Heagle, Lawrence F. | Phar. | Fr. | Hailey, Idaho |
| Hearn, Berthold Edgar | Com. | Jr. | Phoenix |
| Hearn, Mabel Irene | Com. | Jr. | Phoenix |
| Heath, Dana Roy | I.A. | Spec. | Corvallis |
| Heath, Edna Celia | Com. | Fr. | Corvallis |
| Heath, Florence Evelyn | H.Ec. | Fr. | Corvallis |
| Heath, Gay | Agri. | Jr. | Portland |
| Heath, James Adrian | For. | Jr. | Raymond, Wash. |
| Heath, William Kelly | Agri. | Soph. | Buhl, Idaho |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|----------------------|
| Hegg, Florence | Com. | Soph. | Sedro Woolley, Wash. |
| Heidenreich, Philip August | C.E. | Fr. | La Grande |
| Heifrin, Arlis | For. | Fr. | Silver Lake |
| Heikka, Hillie F. | Agri. | Voc. | Kelso, Wash. |
| Heilman, Clair Edwin | Agri. | Spec. | Los Angeles, Cal. |
| Heilman, Ernest Daniel | M.E. | Soph. | Brooklyn, N. Y. |
| Heilman, Robert Erskine | M.A. | Voc. | Portland |
| Hainanen, Laurence Reynolds | E.E. | Spec. | Hoquiam, Wash. |
| Heine, Mildred Lois | Com. | Jr. | Medford |
| Heinrich, Ruth Virginia | Com. | Soph. | Portland |
| Heller, William Charles | Com. | Voc. | McKinley |
| Hellerich, Geo. | Mines | Spec. | Corvallis |
| Helm, George Darby | | Opt. | Dallas, Texas |
| Helm, George P. | E.E. | Fr. | Hillsboro |
| Helm, Irma May | H.Ec. | Soph. | Hillsboro |
| Helmer, Lucille Evelyn | H.Ec. | Soph. | Portland |
| Helmer, Oscar Marvin | Ch.E. | Sr. | Portland |
| Helsby, Leo Arthur | For. | Fr. | Oregon City |
| Hencratt, Eunice Virgil | H.Ec. | Fr. | Cottonwood, Cal. |
| Henderson, Freeta Rebecca | Com. | Fr. | Amity |
| Henderson, Gene Marjorie | Com. | Sr. | Waterville, Wash. |
| Henderson, John M. | For. | Fr. | La Grande |
| Henderson, Merrill Clarence | M.E. | Fr. | Portland |
| Henderson, Vera Seffert | Phar. | Soph. | Corvallis |
| Henderson, Wm. Kenneth | Com. | Soph. | San Bernardino, Cal. |
| Hendrikson, Zenda Aileen | Com. | Fr. | Prineville |
| Henkle, Mark Forrest | Agri. | Soph. | Moro |
| Hensen, Marguerite Emma | H.Ec. | Fr. | Long Beach, Cal. |
| Heppner, Pete J. | Agri. | Voc. | Dallas |
| Herbert, Violet Philenda | H.Ec. | Sr. | Ashland |
| Herbert, William | Ch.E. | Fr. | Clackamas |
| Herbert, Winnifred Dunlap | | Opt. | Corvallis |
| Herlihy, Lester Barry | Agri. | Voc. | Corvallis |
| Herman, Edward Hungeford | Agri. | Jr. | Boone, Iowa |
| Hermann, Otto Henry | C.E. | Sr. | Astoria |
| Herse, Bertha Ema | H.Ec. | Spec. | Corvallis |
| Hershner, Frances Marion | Ch.E. | Sr. | Portland |
| Hesgard, Rose Charlotte | Com. | Fr. | Portland |
| Heslen, James Martin | Agri. | Voc. | Corbett |
| Heslin, John Caryl | M.E. | Soph. | Fairview |
| Hessler, George Herman | Com. | Fr. | Dayton |
| Hessler, Victor Peter | E.E. | Fr. | Dayton |
| Heston, Alfred Camby | Agri. | Jr. | Portland |
| Hewett, Gerald R. | Phar. | Fr. | Independence |
| Hewett, Opal E. | Phar. | Jr. | Independence |
| Hewitt, Thos. Henry | For. | Jr. | Portland |
| Heyden, Homer Edward | Agri. | Fr. | Pendleton |
| Heyden, Theodore A. | Agri. | Sr. | Pendleton |
| Hickethier, Carl Richard | Agri. | Voc. | Portland |
| Hickethier, Hubert Custus | Agri. | Fr. | Drain |
| Hicking, Merrill Radcliffe | Phar. | Soph. | Bandon |
| Hicking, William Henry | Phar. | Jr. | Bandon |
| Hickman, Elma St. Claire | H.Ec. | Fr. | Corvallis |
| Hickok, Clarence Wm. | I.A. | Jr. | McMinnville |
| Higby, Katherine | H.Ec. | Sr. | Forest Grove |
| Higby, William Morgan | Agri. | Soph. | Forest Grove |
| Higley, Tessa Ruth | Voc.Ed. | Fr. | Mosier |
| Hilderbrand, Cleda Berdia | H.Ec. | Fr. | Wasco |
| Hileman, Walden Walter | M.A. | Voc. | Mabel |
| Hill, Carl Jackson | Com. | Fr. | Shedd |
| Hill, Donald David | Agri. | Fr. | Eugene |
| Hill, Elizabeth Stewart | Com. | Sr. | Medford |
| Hill, Howard | I.A. | Fr. | Dufur |
| Hill, James Andrew | E.E. | Fr. | Astoria |
| Hilliard, Harry Le Roy | Ch.E. | Spec. | Portland |
| Hillis, William Laurence | M.E. | Soph. | Portland |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| Hills, Ferna | H.Ec. | Jr. | Douglas, Ariz. |
| Hillstrom, Rudolph John | M.E. | Sr. | Marshfield |
| Hillyard, Reginald Chester | Com. | Spec. | Tacoma, Wash. |
| Hindmarsh, Albert Edw. | Ch.E. | Fr. | Corvallis |
| Hinman, John Abel | Com. | Fr. | Everett, Wash. |
| Hinton, Greta Ann | | Opt. | Corvallis |
| Hirons, Kenneth Durall | Phar. | Fr. | Corvallis |
| Hitzler, Benjamin Lucian | E.E. | Soph. | Corvallis |
| Hixson, Augustus | Com. | Jr. | Portland |
| Hixson, Raymond Floyd | Agri. | Jr. | La Verne, Cal |
| Hjelte, Marshall | Agri. | Jr. | Oakland, Cal. |
| Hoag, Joe Burrows | Agri. | Spec. | Portland |
| Hobart, Anne | H.Ec. | Jr. | Silverton |
| Hobart, Theodore Roosevelt | Agri. | Fr. | Silverton |
| Hobgood, Walter Bentley | E.E. | Spec. | Portland |
| Hochstetler, Simon M. | Agri. | Voc. | Woodburn |
| Hocken, Edna Frances | Com. | Fr. | Beaverton |
| Hodecker, Fred John | Ch.E. | Soph. | Portland |
| Hodge, Goldie Marie | | Opt. | Hood River |
| Hodl, Herman J. | Com. | Spec. | Portland |
| Hoeflein, Thelma D. | Com. | Jr. | Yaquina |
| Hoffer, Dan | C.E. | Jr. | Eugene |
| Hoffman, Hazel Beatrice | Voc.Ed. | Fr. | Bacona |
| Hoffman, Olivia | H.Ec. | Jr. | Bacona |
| Hogg, John Glenn | Agri. | Sr. | Salem |
| Hogg, Ronald Valentine | Agri. | Jr. | Salem |
| Hogue, Esther Myrtle | H.Ec. | Voc. | Corvallis |
| Holden, Donald Lee | E.E. | Fr. | Waluga |
| Holdridge, Ella Lucile | H.Ec. | Fr. | Talent |
| Holgate, Leo Lester | Com. | Jr. | Sutherlin |
| Hollinger, Mertroe W. | Com. | Jr. | Long Beach, Cal. |
| Hollingsworth, Kenneth B. | Com. | Fr. | McMinnville |
| Hollmann, Henry Mertz | Phar. | Fr. | Portland |
| Holloway, Rachel Euince | H.Ec. | Fr. | Portland |
| Holman, Erma La Verne | H.Ec. | Jr. | Albany |
| Holmes, Genevieve Grace | | Opt. | Corvallis |
| Holmes, Lee Stanley | For. | Sr. | Portland |
| Holmes, Mary Vincent | Phar. | Sr. | Portland |
| Holmes, Volney Eugene | Agri. | Sr. | Eugene |
| Holmquist, Dewey | Com. | Soph. | San Diego, Cal. |
| Holtgren, Clifford Claud | E.E. | Soph. | Corvallis |
| Holtgreve, Albert Louis | Com. | Soph. | Portland |
| Hongell, Geo. F. | Mines | Jr. | Marshfield |
| Hooton, Arthur L. | E.E. | Sr. | Coquille |
| Hoover, Charles Robert | Agri. | Voc. | Chase, Mich. |
| Hoover, Marie | Voc.Ed. | Fr. | Oanogan, Wash. |
| Hoover, Theron Curtis | Com. | Jr. | Salem |
| Hopkins, Horace L. | Agri. | Sr. | Corvallis |
| Hopkins, Julia Eleanor | Com. | Fr. | La Grande |
| Hopkins, Lynn | Phar. | Jr. | Corvallis |
| Hopper, Richard Homer | E.E. | Jr. | Pendleton |
| Hopping, Geo. Redstone | For. | Soph. | Vernon, B. C. |
| Hopson, Winifred | Com. | Spec. | Portland |
| Horn, Elliot E. | Agri. | Soph. | Pasadena, Cal. |
| Hornbeck, Clifford Perry | Com. | Soph. | Los Angeles, Cal. |
| Horseman, Theron Eugene | M.E. | Jr. | Portland |
| Hosford, Raymond Louis | Agri. | Spec. | Menomonie, Wis. |
| Hoskins, Helen Constance | Com. | Fr. | Corvallis |
| Hoskinson, Jessica Coleman | | Opt. | Moro |
| Hostetler, Jonathan Ray | M.E. | Soph. | Powers |
| Houser, Mrs. J. J. | | Opt. | Corvallis |
| Hout, Lillian | Com. | Soph. | Corvallis |
| Houts, Charley Lee | Agri. | Voc. | Tacoma, Wash. |
| Hovenden, Grace Bonita | H.Ec. | Sr. | Portland |
| Hovey, Mary | Com. | Jr. | Seattle, Wash. |
| Howard, Edward Clifford | | Opt. | Corvallis |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| Howard, Ernest Ashley | E.E. | Fr. | Corvallis |
| Howard, Esther Leona | H.Ec. | Fr. | Corvallis |
| Howard, Frank Leslie | Agri. | Fr. | Los Angeles, Cal. |
| Howard, Frank M. | E.E. | Spec. | Portland |
| Howard, John Hasler | Agri. | Soph. | Portland |
| Howe, John Wendell | Agri. | Soph. | Oakland, Cal. |
| Howe, Margaret | Com. | Soph. | Waterville, Wash. |
| Howell, Genevieve | Com. | Fr. | Weiser, Idaho |
| Howell, Helen Elizabeth | Com. | Fr. | Weiser, Idaho |
| Howells, Harriet Butler | H.Ec. | Soph. | Eugene |
| Howeston, Norman A. | Agri. | Fr. | Ilwaco, Wash. |
| Howitt, Lela Grace | Com. | Fr. | Portland |
| Howland, William Isaac | Agri. | Voc. | Newberg |
| Howser, Darrell L. | Com. | Fr. | Burns |
| Hoy, Elvin Albert | M.E. | Soph. | Portland |
| Hoyt, Atlee W. | Agri. | Voc. | Powers |
| Hubbard, Cornelia | H.Ec. | Fr. | Portland |
| Hubard, Eugene Field | Agri. | Jr. | Corvallis |
| Hubbs, Dorothy May | H.Ec. | Fr. | Silverton |
| Huber, Hattie Viola | Phar. | Fr. | Centralia, Wash. |
| Hudson, Emil Paul | C.E. | Jr. | Crabtree |
| Huff, Frances Clara | Com. | Soph. | Baker |
| Hughes, Dorothy R. | Com. | Fr. | Yelm, Wash. |
| Hughes, John E. | Com. | Fr. | Roseberry, Idaho |
| Hughes, Leona Clair | H.Ec. | Fr. | Roseberry, Idaho |
| Hughes, Lyle Grant | M.A. | Voc. | Brownsville |
| Hughson, Elizabeth Laurana | H.Ec. | Jr. | Corvallis |
| Hukill, Wm. Virgil | M.E. | Sr. | Corvallis |
| Hulihan, Patrick Joseph | Agri. | Voc. | Pocatello, Idaho |
| Hull, Arthur Morris | Agri. | Fr. | Long Beach, Cal. |
| Hull, Edward Benoist | Agri. | Voc. | Corvallis |
| Hulse, Julia Evelyn | Phar. | Fr. | La Grande |
| Hultquist, Franz Leonard | M.E. | Sr. | Portland |
| Humfeld, Harry | Agri. | Jr. | Portland |
| Humfeld, Marie Kathrine | H.Ec. | Soph. | Portland |
| Humphrey, Helen Martha | Com. | Fr. | Corvallis |
| Humphrey, Indianus Andrew | Agri. | Sr. | Corvallis |
| Humphreys, Grace Kathryn | Com. | Jr. | Shaw |
| Humphrey, Edward Kinsel | C.E. | Soph. | Corvallis |
| Humphrey, Fred Homan | Com. | Jr. | Portland |
| Hunsperger, Edward Marvin | Com. | Voc. | Corvallis |
| Hunsperger, Nora Violet | H.Ec. | Sr. | Corvallis |
| Hunstock, Parham I. | M.E. | Jr. | Baker |
| Hunt, Grace Lorene | Com. | Soph. | Salem |
| Hunt, Warren John | | Opt. | Corvallis |
| Hunter, Addie R. | | Opt. | Corvallis |
| Hunter, Allyn R. | Agri. | Soph. | La Grande |
| Hunter, Bernice | | Opt. | Corvallis |
| Hunter, Kenneth Mathew | Phar. | Soph. | Portland |
| Huntington, Mary | Voc.Ed. | Sr. | Yoncalla |
| Huntington, Sara | H.Ec. | Jr. | Yoncalla |
| Huntley, Helen Elizabeth | Com. | Fr. | Pendleton |
| Hunting, Henry Marshall | Agri. | Spec. | Corvallis |
| Hunting, Katie O. | H.Ec. | Sr. | Corvallis |
| Hurd, Clinton Tennyson | E.E. | Jr. | Aberdeen, Wash. |
| Hurd, Mildred | H.Ec. | Jr. | Corvallis |
| Hurd, Owen | E.E. | Fr. | Eugene |
| Husby, Earl A. | Mines | Jr. | Portland |
| Huseth, Clara Ethel | H.Ec. | Jr. | Great Falls, Mont. |
| Hutchinson, Fred | Com. | Fr. | Dundee |
| Hutchison, Ralph Albert | M.A. | Voc. | North Powder |
| Hutchison, Roy E. | Agri. | Soph. | Forsyth, Mont. |
| Hyatt, Waldron | C.E. | Sr. | Willamette |
| Hylander, Grant Oberlin | Com. | Jr. | Portland |
| Hylton, Ralph Martin | Com. | Fr. | Anaconda, Mont. |
| Hylton, Velma Josephine | H.Ec. | Soph. | Anaconda, Mont. |

UNDERGRADUATE STUDENTS

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| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|----------------------|
| Ihli, Nickola | Com. | Spec. | Caldwell, Idaho |
| Iler, Floyd Gilbert | Agri. | Voc. | Mason City, Iowa |
| Imlah, F. Mildred | H.Ec. | Soph. | Salem |
| Ingalls, Wilma Edwina | Voc.Ed. | Soph. | Hillsboro |
| Ingham, Emery C. | C.E. | Sr. | Portland |
| Ingham, Florence | Voc.Ed. | Fr. | Portland |
| Ingram, Oliver Nelson | E.E. | Soph. | Hoquiam, Wash. |
| Ireland, David Kenneth | Com. | Sr. | Bellingham, Wash. |
| Ireland, Marjorie Alice | Com. | Jr. | Pendleton |
| Irvine, C. Paul | Com. | Fr. | Portland |
| Irving, Robert Lewis | Agri. | Soph. | Wilbur |
| Irving, Roland | Agri. | Fr. | Oswego |
| Irwin, Ordo Wm. | Com. | Sr. | Oakley, Kan. |
| Izard, Josephine Elizabeth | Agri. | Fr. | Los Angeles, Cal. |
| Jackman, Louise | Com. | Sr. | Lynden, Wash. |
| Jackson, Andrew | Agri. | Voc. | Seattle, Wash. |
| Jackson, Clarissa Dale | H.Ec. | Fr. | Lorane |
| Jackson, Dean Burdett | M.E. | Jr. | Baker |
| Jackson, Eldon E. | Agri. | Soph. | Middleton, Idaho |
| Jackson, Emily S. | H.Ec. | Spec. | Portland |
| Jackson, Glenn Lawrence | Com. | Soph. | Albany |
| Jackson, Mildred Mae | Com. | Sr. | Corvallis |
| Jackson, Paul | Agri. | Soph. | Whittier, Cal. |
| Jackson, Thomas Ross | Phar. | Soph. | Fresno, Cal. |
| Jackson, Wayne Chester | E.E. | Jr. | Molalla |
| Jacobs, Georgia Lucille | H.Ec. | Fr. | Portland |
| Jacobs, Rose Delia | H.Ec. | Spec. | Albany |
| Jacobson, Alvin Edward | C.E. | Jr. | La Grande |
| Jacobson, Carl Robert A. | Agri. | Spec. | Astoria |
| Jacobson, Elmer B. | Agri. | Voc. | Ranier |
| Jacobson, Elsie Elvera | H.Ec. | Soph. | Astoria |
| Jacobson, Frank | Agri. | Voc. | Ranier |
| Jagger, Reed Albion | Com. | Fr. | Oregon City |
| James, Harden Luther | Phar. | Jr. | Ranier |
| Jankowsky, George Herman | For. | Soph. | Portland |
| Jarmin, Marc Burdette | Phar. | Jr. | Long City, Nebr. |
| Jarmon, A. Beryl | H.Ec. | Soph. | Echo |
| Jarvis, James William | Agri. | Soph. | Port Townsend, Wash. |
| Jeffers, Wilson Stanley | C.E. | Fr. | Marshfield |
| Jenkins, George Herrick | Agri. | Fr. | Riverside, Cal. |
| Jenkins, Vernon Prescott | Agri. | Fr. | Riverside, Cal. |
| Jenks, Halla Margaret | Com. | Soph. | Tangent |
| Jenks, James William | Com. | Soph. | Tangent |
| Jenner, Anna Neta | Com. | Soph. | Corvallis |
| Jenner, Charles Edward | Agri. | Voc. | Corvallis |
| Jenner, George Kenward | Agri. | Soph. | Corvallis |
| Jenner, Robinson Crockett | Agri. | Fr. | Seattle, Wash. |
| Jennings, Evangeline | H.Ec. | Sr. | Salem |
| Jennings, Kathleen Margaret | H.Ec. | Voc. | Portland |
| Jennings, Richard | M.E. | Jr. | Portland |
| Jensen, Annie M. | H.Ec. | Jr. | Junction City |
| Jensen, Evelyn Isabel | Com. | Fr. | Corvallis |
| Jensen, Lola | Com. | Soph. | Vale |
| Jensen, M. Irene | H.Ec. | Soph. | Walla Walla, Wash. |
| Jensen, Soren | Agri. | Voc. | Eugene |
| Jensen, Willard R. | M.E. | Jr. | Corvallis |
| Jessen, Ralph Frank | Agri. | Sr. | Calistoga, Cal. |
| Jessup, Lorna Collamore | H.Ec. | Sr. | Coquille |
| Jessup, Oliver Clinton | Com. | Soph. | Portland |
| Jewell, Mary Lois | Phar. | Soph. | Laclede, Idaho |
| Johnson, Ada Gertrude | Com. | Fr. | Sheridan |
| Johnson, Albert D. | Com. | Spec. | McMinnville |
| Johnson, Arthur Emanuel | Agri. | Jr. | Corvallis |
| Johnson, Charles Fred | Com. | Jr. | Hood River |
| Johnson, Dwight Reed | M.E. | Soph. | Portland |
| Johnson, Edith Adeline | Com. | Soph. | Marshfield |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|---------------------|
| Johnson, Elmer Ferdinand | E.E. | Fr. | Everett, Wash. |
| Johnson, Elmer John Magnus | M.E. | Jr. | Marshfield |
| Johnson, Evelyn Elinor | Phar. | Fr. | Linnnton |
| Johnson, Florence Ruby | H.Ec. | Voc. | San Diego, Cal. |
| Johnson, Frances Irene | Com. | Sr. | Portland |
| Johnson, Frank Edward | Agri. | Voc. | Alberta, Canada |
| Johnson, Frank Kenneth | E.E. | Soph. | Los Angeles, Cal. |
| Johnson, Frank Ralph | Agri. | Soph. | Bloomington, Ill. |
| Johnson, Harold Wm. | I.A. | Jr. | Mulino |
| Johnson, Helen | Com. | Jr. | Portland |
| Johnson, Helen A. | Com. | Jr. | Portland |
| Johnson, Herbert Newton | M.E. | Fr. | Portland |
| Johnson, Herbert Wm. | Phar. | Fr. | Everett, Wash. |
| Johnson, Julius William | Agri. | Fr. | Hood River |
| Johnson, Keith Leland | Com. | Opt. | Nampa, Idaho |
| Johnson, Laurence Justus | Com. | Fr. | Creswell |
| Johnson, Lester James | Agri. | Jr. | Santa Cruz, Cal. |
| Johnson, Lois Gertrude | Phar. | Soph. | Boise, Idaho |
| Johnson, Lola Ernestine | H.Ec. | Soph. | Wallowa |
| Johnson, Margaret Alpeheidur | Agri. | Jr. | Duncan, B. C. |
| Johnson, M. Ray | Phar. | Jr. | Colton |
| Johnson, Ralph Holgar | Agri. | Voc. | Everett, Wash. |
| Johnson, Raymond August | Agri. | Voc. | Corvallis |
| Johnson, R. G. Jr., | Agri. | Soph. | Fresno, Cal. |
| Johnson, Robert H. | Com. | Jr. | Redmond |
| Johnson, Roscoe Raymond | Com. | Voc. | Corvallis |
| Johnson, Rudolph Alfred | M.E. | Fr. | Marshfield |
| Johnson, Russell Isaac | Phar. | Voc. | Corvallis |
| Johnson, Ture Harold | M.E. | Sr. | Woodburn |
| Johnson, Vashti | H.Ec. | Soph. | Portland |
| Johnson, Victor William | M.E. | Jr. | Portland |
| Johnson, Vivian | H.Ec. | Fr. | Portland |
| Johnson, Winfield Haaken | E.E. | Jr. | Linnnton |
| Johnston, Arthur Jacob | E.E. | Fr. | Milwaukie |
| Johnston, Emory Earl | C.E. | Fr. | Athena |
| Johnston, Ruth | Com. | Sr. | Corvallis |
| Jones, Annie Jardine | H.Ec. | Fr. | Pocatello, Idaho |
| Jones, Arthur Wallace | Com. | Fr. | Portland |
| Jones, Casey Stacey | I.A. | Fr. | Lebanon |
| Jones, Catherine K. | H.Ec. | Soph. | Challis, Idaho |
| Jones, DeWitt Clinton | For. | Jr. | Fort Wayne, Ind. |
| Jones, Floyd Clark | E.E. | Jr. | Airlie |
| Jones, Frieda Buryl | Com. | Jr. | Lebanon |
| Jones, George Alfred | Mines | Sr. | Corvallis |
| Jones, Gladys Elaine | Voc.Ed. | Fr. | Newport |
| Jones, Helenann. | H.Ec. | Soph. | Oregon City |
| Jones, Howard Gaylor | Agri. | Sr. | Albany |
| Jones, James Garrard | Agri. | Soph. | Montclair, N. J. |
| Jones, Mary Emma | H.Ec. | Spec. | Portland |
| Jones, Paul William | Phar. | Fr. | Freewater |
| Jones, Reece Hamilton | Agri. | Jr. | Salem |
| Jones, Sidney Carroll | For. | Soph. | Chehalis, Wash. |
| Jones, Theodore Amos | E.E. | Jr. | Portland |
| Jones, Thos. I. | Agri. | Voc. | Union |
| Jones, Wm. Hugh | C.E. | Sr. | Portland |
| Jones, Winifred | H.Ec. | Sr. | Portland |
| Joost, George Edward | M.E. | Soph. | Portland |
| Joseph, Charles Lewis | Com. | Fr. | Weiser, Idaho |
| Joseph, Elizabeth Lura | Com. | Fr. | Weiser, Idaho |
| Joubert, Jacobus | Agri. | Sr. | Corvallis |
| Joy, Kenneth Dayton | C.E. | Sr. | Portland |
| Joy, Marjorie V. | Com. | Soph. | Portland |
| Julian, Kenneth Frank | Com. | Fr. | Illwaco, Wash. |
| Junor, Helen | H.Ec. | Fr. | Portland |
| Jutstrom, William Harold | Agri. | Soph. | Marshfield |
| Kain, Wayne E. | Com. | Soph. | Portland |

UNDERGRADUATE STUDENTS

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| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|---------------------|
| Kakebeeke, Jim Pierre | M.E. | Fr. | Ontario |
| Kahn, Frances May | Com. | Fr. | Missoula, Mont. |
| Kammerer, Adolph Harold | M.E. | Soph. | Corvallis |
| Kammerer, Arleigh R. | H.Ec. | Jr. | Corvallis |
| Kammerer, Theodore Garold | M.E. | Soph. | Corvallis |
| Kane, Gardner Lewis | Agri. | Sr. | Gardena, Cal. |
| Kanekeberg, George | Agri. | Voc. | Bothell, Wash. |
| Kantor, Dorothy Vernon | H.Ec. | Spec. | Corvallis |
| Kantor, Peter Adolph | Agri. | Jr. | Russia |
| Karis, Russell Robert | Com. | Spec. | Twin Falls, Idaho |
| Karlson, Chester A. | M.A. | Voc. | Portland |
| Karnuth, William Edward | Mines. | Fr. | Camas, Wash. |
| Kasberger, Joseph Michael | Agri. | Sr. | The Dalles |
| Keading, Lewis Charles | M.E. | Fr. | Hoquiam, Wash. |
| Keasey, T. F. | C.E. | Soph. | Corvallis |
| Keatley, Robert Leland | Agri. | Sr. | Castle Rock, Wash. |
| Keebler, Bess Fern | H.Ec. | Jr. | Lebanon |
| Keeler, Joseph Arthur | Agri. | Voc. | Corvallis |
| Keen, Arthur | E.E. | Fr. | Halsey |
| Keeney, Anna | H.Ec. | Spec. | Olex |
| Keeney, Floyd Lester | Phar. | Jr. | Palouse, Wash. |
| Keep, Eleanor Ryan | H.Ec. | Fr. | Washougal, Wash. |
| Keil, Carl H. | E.E. | Sr. | Cosmopolis, Wash. |
| Kellas, Alexander McFarlane | E.E. | Fr. | Portland |
| Keller, Ivern Lucille | Voc.Ed. | Soph. | Corvallis |
| Keller, James Ford | M.A. | Voc. | Scio |
| Keller, Olga | H.Ec. | Soph. | Newberg |
| Keller, Paul J. | Com. | Fr. | Klamath Falls |
| Keller, Robert Johnathan | I.A. | Jr. | Corvallis |
| Kelleway, Duane Stanley | M.E. | Jr. | Corvallis |
| Kelleway, George Henry | M.E. | Fr. | Corvallis |
| Kelleway, Helen | H.Ec. | Sr. | Corvallis |
| Kelley, Fern Elizabeth | H.Ec. | Fr. | Corvallis |
| Kelley, Lewis P. | Com. | Spec. | Freewater |
| Kellogg, Frank Leslie | E.E. | Spec. | Goose Creek, Texas |
| Kellogg, Karl Francis | Agri. | Sr. | Eugene |
| Kellogg, Mark Francis | Agri. | Sr. | Fresno, Cal. |
| Kellogg, Mrs. Richie Counts | Com. | Spec. | Marshfield |
| Kelly, Fred | Agri. | Jr. | Portland |
| Kelly, Wilbur Clinton | For. | Jr. | Portland |
| Kelsey, Henry George | E.E. | Jr. | Hoquiam, Wash. |
| Kelso, Gordon Francis | Com. | Sr. | Junction City |
| Keltner, Percy A. | Agri. | Fr. | Norway |
| Kendall, Leonard | For. | Fr. | Grants Pass |
| Kennedy, James Blaine | Com. | Fr. | Pendleton |
| Kennedy, John J. | M.E. | Soph. | Mabel |
| Kennedy, Hugh | Com. | Soph. | Corvallis |
| Kent, Margaret Ellen | Phar. | Fr. | Portland |
| Kenyon, Edgar Clay | For. | Soph. | La Verne, Cal. |
| Kenyon, Laura Frances | H.Ec. | Fr. | La Verne, Cal. |
| Ker, Alan Newton | Agri. | Fr. | Vancouver, B. C. |
| Kerr, Paul Maurice | Phar. | Spec. | Corvallis |
| Kerr, Moyt W. | Phar. | Jr. | Corvallis |
| Kerr, Robert Marion | | Opt. | Corvallis |
| Kerrick, John C. | Agri. | Fr. | Parma, Idaho |
| Kessi, William Aaron | Agri. | Jr. | Harlan |
| Kessler, Kurt August | Com. | Soph. | Portland |
| Ketcham, Adah | H.Ec. | Fr. | Corvallis |
| Ketchum, Edward S. | Com. | Spec. | Portland |
| Kettner, Raymond Vernon | Mines | Soph. | Linnton |
| Keys, Malcolm E. | Agri. | Soph. | Richmond |
| Keys, Robert Wm. | Agri. | Jr. | Richmond |
| Keyt, Lucille | H.Ec. | Jr. | Perrydale |
| Kidder, Alice Kathryn | Com. | Soph. | Whiteson |
| Kidder, Russell B. | I.A. | Jr. | Whiteson |
| Kiehl, William Jennings | Agri. | Voc. | Marietta, Pa. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-------------------------------|-------------------|-------------|-----------------------|
| Kies, Helen Louise | H.Ec. | Jr. | Vancouver, Wash. |
| Kiger, Martha Helen | H.Ec. | Soph. | Corvallis |
| Kimball, Edward Lewis | Com. | Jr. | Fall Creek |
| Kimball, Stanley | Mines | Soph. | Vancouver, Wash. |
| Kime, Francis Willard | E.E. | Jr. | Corvallis |
| Kimel, Jesse Carl | Ch.E. | Jr. | Estacada |
| Kincaid, Marion Geo. | M.E. | Jr. | Riverside, Cal. |
| Kinder, William Dale | Agri. | Sr. | Prescott, Wash. |
| King, Florence Kathleen | Com. | Jr. | Corvallis |
| King, Owen Lester | M.E. | Spec. | Brownsville |
| Kinney, E. Ramona | H.Ec. | Soph. | Corvallis |
| Kirk, Francis Ernest | E.E. | Fr. | Portland |
| Kirk, Henry E. | Agri. | Voc. | McMinnville |
| Kirk, Thomas S. | Agri. | Jr. | Bozeman, Mont. |
| Kirk, William Loyal | M.E. | Fr. | The Dalles |
| Kirk, William Romme | Agri. | Voc. | Freewater |
| Kirkendall, William S. | Com. | Jr. | Wenatchee, Wash. |
| Kirkham, Arthur Robinson | | Opt. | Portland |
| Kirkpatrick, Harlan Tiller | M.E. | Jr. | Portland |
| Kirkpatrick, Minnie Mae | H.Ec. | Spec. | Portland |
| Kirkwood, Emile Glenn | Mines | Sr. | Salem |
| Kirkwood, Olga | Com. | Soph. | Salem |
| Kiser, Howard James | Com. | Fr. | Washougal, Wash. |
| Kittredge, Marie Emma | H.Ec. | Jr. | Corvallis |
| Kittredge, Oscar | Agri. | Soph. | Silver Lake |
| Kizer, Marion Porter | Agri. | Jr. | Albany |
| Kizer, Velma Parthena | Voc.Ed. | Jr. | Albany |
| Klaus, Frederick Christian | Agri. | Soph. | Salem |
| Klecker, Edmund Wm. | Com. | Fr. | Stayton |
| Klein, Albert William | Com. | Fr. | Portland |
| Klein, William Henry | M.E. | Fr. | Los Angeles, Cal. |
| Klinge, Louie P. | E.E. | Jr. | Salem |
| Klinkenberg, William Theodore | For. | Fr. | Nyssa |
| Knapp, Charlotte Dagmere | H.E. | Spec. | Elgin |
| Knapp, Delford, Lavelle | E.E. | Fr. | Lone Rock |
| Knapp, Morris Carlyle | Com. | Soph. | Enterprise |
| Knauf, Wm. John | | Jr. | Newport |
| Knecht, Walber | Agri. | Spec. | Switzerland |
| Knickerbocker, Connie | Com. | Fr. | Redmond |
| Knickerbocker, Rae | Com. | Soph. | Redmond |
| Knight, Edwin | Agri. | Jr. | Corvallis |
| Knight, Edyth Ethelle | H.Ec. | Fr. | Corvallis |
| Knight, Hugh McCollough | M.A. | Voc. | Washougal, Wash. |
| Knips, Clara | H.E. | Sr. | Grants Pass |
| Knips, E. Helene | H.E. | Jr. | Grants Pass |
| Knoll, Paul Xenophon | Com. | Jr. | Corvallis |
| Knotts, Ethel | Com. | Sr. | Corvallis |
| Knowles, Annabel Barr | Com. | Soph. | Tacoma, Wash. |
| Knox, Fred Milton | Agri. | Soph. | Gaston |
| Knuppenberg, Irva Caryl | Com. | Jr. | Pueblo, Colo. |
| Koehler, Frank Allison | C.E. | Soph. | Portland |
| Koeppen, Alfred Lyman | Phar. | Jr. | Pendleton |
| Kohlhagen, Florence Louise | H.E. | Jr. | Roseburg |
| Kolkana, John Herman | Com. | Fr. | Portland |
| Koller, George B. | Agri. | Voc. | New York Mills, Minn. |
| Komm, Alice Pearl | Com. | Jr. | Yakima, Wash. |
| Koons, Lindley Vernon | Agri. | Soph. | Orland, Calif. |
| Koopman, Minnie Clare | | Opt. | Pittsburg, Kan. |
| Korchnitzky, Walfred | Agri. | Voc. | Corvallis |
| Koski, Emma Eleanor | Com. | Fr. | Corvallis |
| Koski, Jalmer Matthias | M.E. | Fr. | Corvallis |
| Kotlarefsky, Anatole Mitchell | M.E. | Soph. | Odessa, Russia |
| Krebs, Conrad Jr. | Ch.E. | Soph. | Portland |
| Krieger, Bernice Rosemond | Com. | Jr. | Portland |
| Krieger, Philip | Mines | Fr. | Portland |
| Kriesel, Richard Meryl | Mines | Fr. | Salem |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|--------------------------|-------------------|-------------|---------------------|
| Kroeger, Arthur Fred | M.E. | Jr. | Hillsboro |
| Krocker, Jacob Donald | C.E. | Fr. | Dallas |
| Krohn, Bernhard Otter | Com. | Fr. | Hood River |
| Krueger, Hans Louie | Com. | Jr. | Corvallis |
| Kuehn, Louis Ernest | Com. | Soph. | Portland |
| Kuehn, Marie Lorraine | H.E. | Fr. | Portland |
| Kuehner, Richard Carl | Agri. | Sr. | Arbon, Idaho |
| Kung, S. L. | Agri. | Jr. | Hanford, Cal. |
| Kuster, Kenneth Fred | E.E. | Fr. | Victor, Mont. |
| Kyllo, Peter | Agri. | Voc. | Molalla |
| Kylstra, John Henry | M.E. | Fr. | Portland |
| LaBare, Louis Wesley | E.E. | Fr. | St. Helens |
| La Bree, Siple Horace | Agri. | Spec. | Moxee City, Wash. |
| Lacey, Mildred Irene | H.E. | Jr. | Creswell |
| Lachele, Clarence Howard | Ch.E. | Sr. | Salem |
| Lackey, Tressie Sylvins | Com. | Fr. | Nyssa |
| Ladd, James Russell | E.E. | Sr. | Fort Klamath |
| LaDow, George Carlton | Phar. | Fr. | Corvallis |
| LaFayette, Edgar Francis | C.E. | Spec. | Kent, Wash. |
| Lafferty, Ben S. | Phar. | Soph. | Kellogg, Idaho |
| Lafranchi, Alfred | Com. | Spec. | Switzerland |
| Lagus, Lorenzo Werner | For. | Fr. | Astoria |
| Laing, Ithiel | E.E. | Fr. | Glenns Ferry, Idaho |
| Laird, Cecil Ray | E.E. | Sr. | Portland |
| Laird, Florence Mae | H.Ec. | Jr. | North Bend |
| Laird, George L. | C.E. | Jr. | North Bend |
| Lake, Doris E. | Phar. | Soph. | Eugene |
| La Mar, Cleone | Com. | Jr. | Shedd |
| Lambert, Hazel Fern | H.Ec. | Jr. | Scio |
| Lambert, Mary Alice | Com. | Jr. | Umatilla |
| Lambert, Roger L. | Agri. | Voc. | Salem |
| Lamborn, John E. | Com. | Soph. | The Dalles |
| Lamson, Florence A. | Com. | Soph. | Sheridan |
| Lance, Clifford Stergeon | Agri. | Soph. | Pasadena, Cal. |
| Lance, Forrest B. | I.A. | Jr. | Corvallis |
| Lance, Harold Leslie | Com. | Voc. | Pasadena, Cal. |
| Lance, Harold Lester | Phar. | Jr. | Corvallis |
| Lance, John H. | Com. | Sr. | Corvallis |
| Landauer, Robert Paul | Agri. | Fr. | Hillsboro |
| Landes, Clarence Harvey | E.E. | Soph. | Mossy Rock, Wash. |
| Lane, Bernice | Com. | Sr. | Corvallis |
| Lane, Harold Demert | Com. | Soph. | Clatskanie |
| Lane, Roberto Claris | Com. | Fr. | Cascade Locks |
| Lang, Stanley B. | Com. | Voc. | Portland |
| Langton, Theo. J. | M.E. | Sr. | Newberg |
| Lantz, Louin Grant | M.E. | Jr. | Cove |
| Larabee, Wilbur Norman | Com. | Fr. | St. Helens |
| Large, Lester LeRoy | E.E. | Fr. | Portland |
| Larmer, Wilbur Irwin | Agri. | Fr. | Covina, Calif. |
| Larsen, Edward Louis | Com. | Sr. | Clatskanie |
| Larsen, Edwin E. | Com. | Jr. | Suver |
| Larsen, Pauline Isabelle | Com. | Fr. | Astoria |
| Larson, Dewey Bernard | Mines | Sr. | Portland |
| Lasher, Frank Wesley | Mil. | Jr. | Juyallup, Wash. |
| Lasher, Ruth Marion | Com. | Fr. | Puyallup, Wash. |
| Lasswell, Mrs. Audrey | Com. | Sr. | Yoncalla |
| Lawrence, Wilbur Wray | Agri. | Fr. | Yuma, Colo. |
| Lawson, James E. | Com. | Jr. | McMinnville |
| Layman, John Harold | Com. | Jr. | Portland |
| Layton, Clorin J. | Com. | Sr. | Rathdrum, Idaho |
| Leadbetter, H. L. P. | For. | Voc. | Portland |
| Leaf, Arthur Emanuel | Com. | Fr. | Portland |
| Leander, Evelyn M. | H.Ec. | Fr. | Seattle, Wash. |
| Leavitt, Maynard Dewey | Agri. | Voc. | Newberg |
| Lechner, Erwin A. | M.E. | Jr. | Cathlamet, Wash. |
| Lee, Clyde Lamar | Com. | Fr. | Myrtle Creek |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|----------------------|
| Lee, Kenneth Lemuel | E.E. | Fr. | Portland |
| Lee, Ta | Com. | Fr. | China |
| Leech, Sara Olive | H.Ec. | Sr. | Berkeley, Cal. |
| Leep, Robert Wallace | C.E. | Soph. | Halfway |
| Leever, Dale V. | Agri. | Soph. | Carlton |
| Lefler, Leonard Leo | Agri. | Voc. | Stanfield |
| Legge, Roy W. | M.E. | Spec. | Gospport, Ind. |
| Lehman, Olive Henrietta | H.Ec. | Jr. | Portland |
| Leland, Mildred | Com. | Fr. | Corvallis |
| Lentz, Bertram F. | E.E. | Soph. | Baker |
| Leo, Harold Raymond | Agri. | Sr. | Portland |
| Leonard, Raymond Jackson | Mines | Spec. | Republic, Wash. |
| Leonard, Willard | Com. | Fr. | Corvallis |
| Le Van, Ruth Isabelle | H.Ec. | Fr. | Salem |
| Lewis, Garfield Orr | Voc.Ed. | Sr. | Portland |
| Lewis, Howard Phelps | Ch.E. | Soph. | Marshfield |
| Lewis, M. Alvira | H.Ec. | Fr. | Dillard |
| Lewis, Paul M. | Agri. | Sr. | Portland |
| Lewis, Trevor | For. | Spec. | Port Townsend, Wash. |
| Lewis, Wade Vernon | Mines | Sr. | Portland |
| Lewis, W. Irene | H.E. | Soph. | Rickreall |
| Lewthwaite, Norman Alex. | Ch.E. | Fr. | Ocean Falls, B. C. |
| Lichthorn, Albert Curtis | E.E. | Soph. | Estacada |
| Liddell, Wingham, J. H. | M.E. | Sr. | Berkeley, Cal. |
| Light, James Floyd | Com. | Fr. | Cloverdale |
| Lincoln, Cleolia Lucile | Com. | Fr. | Carrolls, Wash. |
| Lindberg, Chris. M. | C.E. | Jr. | Woodburn |
| Lindberg, Roberta Jean | H.Ec. | Soph. | Los Angeles, Cal. |
| Lindley, Susie Loree | H.E. | Soph. | Portland |
| Lindquist, Bruce C. | Agri. | Spec. | Powell Buttes |
| Lindsay, Gordon C. | E.E. | Soph. | Berkeley, Cal. |
| Linsley, Arthur Ray | E.E. | Soph. | Oregon City |
| Line, Elsie | Phar. | Soph. | Corvallis |
| Lines, Rachael Elizabeth | H.Ec. | Soph. | Corvallis |
| Link, Chester Forest | Agri. | Spec. | Goble |
| Linn, Walter Everette | Com. | Fr. | Ione |
| Linton, Frank Cornelius | Mines | Sr. | Corvallis |
| Linton, George E. | C.E. | Jr. | Corvallis |
| Little, Gordon | E.E. | Jr. | Stockton, Cal. |
| Little, Monta Elizabeth | H.Ec. | Fr. | Oregon City |
| Littlejohns, Gertrude Louise | Com. | Soph. | Corvallis |
| Livengood, Helen | H.Ec. | Jr. | Albany |
| Livermore, Leroy Cornett | Com. | Fr. | Portland |
| Livingston, Laura Edith | H.Ec. | Spec. | Hawaii |
| Livingston, Robert Stimpson | Agri. | Soph. | Oxnard, Cal. |
| Lizberg, Clement Mathew | E.E. | Fr. | Oregon City |
| Llabres, Mandel | Agri. | Jr. | Philippines |
| Locey, Percy Phillip | Com. | Jr. | Corvallis |
| Locher, Loren Otta | C.E. | Fr. | Oswego |
| Lockhart, Clarence Lee | Agri. | Soph. | Marysville, Wash. |
| Loehr, John | Agri. | Jr. | Corvallis |
| Loehr, Ruby Roberta | Voc.Ed. | Spec. | Corvallis |
| Loennig, Henry Walter | Agri. | Fr. | Haines |
| Loffand, Achian Mason | E.E. | Fr. | Medford |
| Loftis, James Russell | Agri. | Fr. | Banks |
| Lofts, Lillian Mary | Com. | Soph. | Hood River |
| Logan, Cecile Mary | Com. | Jr. | Brogan |
| Logan, Myrtle Elizabeth | H.Ec. | Fr. | Brogan |
| Logan, Ray Warner | Com. | Fr. | Shaniko |
| Long, Charles K. | Agri. | Soph. | Zamora, Cal. |
| Long, Hervey Croxton | Mines | Sr. | Portland |
| Long, Howard D. | Agri. | Voc. | Brookville, Ill. |
| Long, Lucille Townsend | H.Ec. | Spec. | Corvallis |
| Long, Spencer, William | Agri. | Voc. | Scio |
| Loomba, Satya Deva | Agri. | Jr. | India |
| Loughran, James | Agri. | Spec. | Bellevue, Wash. |

UNDERGRADUATE STUDENTS

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| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------------|-------------------|-------------|---------------------|
| Loughrey, Ettley E. | Ch.E. | Sr. | Payette, Idaho |
| Loughrey, Ray M. | Com. | Soph. | Payette, Idaho |
| Love, Leston Lewis | Agri. | Jr. | Corvallis |
| Lovegren, Calvert A. | E.E. | Spec. | Portland |
| Lovegreen, Wilfred David | For. | Jr. | Cherry Grove |
| Lovett, Thos. C. | M.E. | Sr. | West Linn |
| Low, Charles Ross | Mines | Jr. | Vancouver, Wash. |
| Lowe, Alexander Hewett | C.E. | Jr. | Portland |
| Lowes, Elva Dorothy | H.Ec. | Fr. | Portland |
| Loy, Alfred Walter | Agri. | Sr. | Buena Vista |
| Loy, Clarence | Agri. | Fr. | Buena Vista |
| Loy, Gilbert Frank | Agri. | Sr. | Buena Vista |
| Loydgren, Violet Elvira | Com. | Fr. | Portland |
| Lucas, Clifford Allen | Voc.Ed. | Soph. | Corvallis |
| Luch, Anna Louise | H.Ec. | Sr. | Vancouver, Wash. |
| Lucius, Margaret Octavia | Voc.Ed. | Soph. | Portland |
| Luebke, Benjamin Harrison | Agri. | Soph. | Corvallis |
| Luedinghaus, Eva Violet | Agri. | Jr. | Portland |
| Luedinghaus, Louise Harriet | H.Ec. | Fr. | Portland |
| Luehrs, Ione Cecelia | Com. | Fr. | Ontario |
| Luellwitz, McHenry | For. | Fr. | Portland |
| Luft, Oliver Fritts | M.E. | Fr. | Davis, Cal. |
| Lugnet, Verner | Ch.E. | Jr. | Astoria |
| Lunt, Herbert A. | Agri. | Sr. | Corvallis |
| Lyman, Bernie Ellen | H.Ec. | Fr. | Tacoma, Wash. |
| Lyans, Richard Wilvin | Phar. | Jr. | Eugene |
| Lyman, Elwood Watson | Com. | Soph. | La Grande |
| Lynch, Frank | Com. | Jr. | Aumsville |
| McAllister, Lee | C.E. | Spec. | Corvallis |
| McAndie, Harold Henry | Agri. | Fr. | Portland |
| McAlee, Bernard Lawrence | Agri. | Voc. | Hammond, Ill. |
| McAuley, Elsie Elizabeth | H.Ec. | Fr. | Portland |
| McBride, Clarendon C. Jr. | Agri. | Soph. | Eddyville |
| McBride, John Willard | M.A. | Voc. | Eddyville |
| McBride, Ronald Anthony | Phar. | Jr. | Portland |
| McBurney, Ross Robert | Com. | Soph. | Gaston |
| McCain, Cecil W. | Phar. | Jr. | Corvallis |
| McCain, Thomas J. | Phar. | Sr. | Payette, Idaho |
| McCart, Ray | Agri. | Fr. | McMinnville |
| McCarthy, Kathleen | H.Ec. | Fr. | Corvallis |
| McCarty, Harry Lloyd | Com. | Spec. | San Diego, Cal. |
| McCaw, Dwight | Agri. | Soph. | Prescott, Wash. |
| McClaran, Margaret Grace | H.Ec. | Fr. | Wallowa |
| McCleary, L. Elgin | E.E. | Fr. | Silverton |
| McClellan, Alice Luella | H.Ec. | Fr. | Salem |
| McComb, Mary Lorette | H.Ec. | Sr. | Klamath Falls |
| McCool, Alice Frances | H.Ec. | Fr. | Boise, Idaho |
| McCool, Lois Juanita | Voc.Ed. | Fr. | Boise, Idaho |
| McCorkindale, John William | Agri. | Spec. | Ontario, Cal. |
| McCorkle, Ruth | H.Ec. | Fr. | Maupin |
| McCormack, William U'ren | Agri. | Jr. | Deschutes |
| McCormick, Herman | Agri. | Spec. | Corvallis |
| McCourt, Josephine Ellen | Voc.Ed. | Fr. | Yoncalla |
| McCroskey, Fern Elva | H.Ec. | Sr. | Pomona, Cal. |
| McCune, Kenneth | Agri. | Jr. | Corvallis |
| McDaniel, Keith Wilmer | I.A. | Fr. | Freewater |
| McDaniel, Vern | For. | Soph. | Dayton, Wash. |
| McDermoth, Elizabeth | H.Ec. | Fr. | Moclips, Wash. |
| McDonald, Elipha Adella | Com. | Fr. | Moro |
| McDonald, George Krohn | Agri. | Jr. | La Grande |
| McDonald, Helen Woodsum | H.Ec. | Fr. | Medford |
| McDonald, Jessie | Com. | Soph. | Portland |
| McDonald, John A. | Agri. | Soph. | Nyssa |
| McDonald, May Evangeline | H.Ec. | Jr. | Dallas |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|---------------------|
| McDonald, William Maurice | Agri. | Fr. | Nyssa |
| McDougall, Will Joseph | M.E. | Fr. | Norman, Wash. |
| McDowell, Dorothy E. | Com. | Sr. | Redmond |
| McEachern, Marion Janet | Voc.Ed. | Soph. | Portland |
| McEachern, Robert Bruce | M.E. | Jr. | Portland |
| McEuen, Thomas Oliver | For. | Voc. | Horton, Kans. |
| McFadden, Mary | H.Ec. | Soph. | Corvallis |
| McFadden, Murius | Com. | Jr. | Corvallis |
| McFeeley, Martha Yvonne | Com. | Fr. | Walla Walla, Wash. |
| McGee, James Henry | Com. | Soph. | Pasadena, Cal. |
| McGee, Leonard Lacy | I.A. | Jr. | Corvallis |
| McGee, Roy Oliver | Agri. | Jr. | Corvallis |
| McGinnis, Guy Robert | Agri. | Spec. | Portland |
| McGonigle, Asa C. | Agri. | Voc. | Corvallis |
| McGreal, Allegra | H.Ec. | Soph. | Portland |
| McGuire, Chas. Edward | Com. | Fr. | Hammond |
| McGuire, Kelly Beecher | For. | Voc. | Matthew, Ky. |
| McGuire, Raymond | Com. | Soph. | Fresno, Calif. |
| McGuire, Thomas | Agri. | Voc. | Corvallis |
| McIntyre, Helen | Voc.Ed. | Soph. | Weiser, Idaho |
| McKee, Arthur Otis | Com. | Voc. | Sumner, Wahs. |
| McKee, Marion Edward | Phar. | Fr. | Wasco |
| McKellips, Harold | E.E. | Soph. | Twisp, Wash. |
| McKenna, Duke Joseph | E.E. | Fr. | Portland |
| McKenna, Harold Joseph | Phar. | Jr. | Anaconda, Mont. |
| McKenna, Hugh Francis | Com. | Jr. | Portland |
| McKenzie, Donald | Agri. | Spec. | Marshfield |
| McKern, Vida Mae | Voc.Ed. | Jr. | Canada |
| McKillop, Neta | Com. | Jr. | Portland |
| McKillop, Vaughn Archie | Com. | Fr. | Centralia, Wash. |
| McKinlay, James Theodore | M.E. | Fr. | Portland |
| McKinney, Curtis Charles | C.E. | Sr. | Portland |
| McKinney, Rollo James | C.E. | Jr. | Independence |
| McKinney, Vera Esther | Com. | Spec. | Corvallis |
| McKinney, Virgil | I.A. | Soph. | Corvallis |
| McKinney, Walter Verne | Com. | Jr. | Hillsboro |
| McKinney, William Boyd | M.A. | Voc. | Independence |
| McKnight, Mildred Mae | Com. | Jr. | Albany |
| McLaughlin, Joseph Robert | Voc.Ed. | Jr. | Corvallis |
| McLeod, Margaret | Voc.Ed. | Fr. | The Dalles |
| McLernon, John Mark | Agri. | Soph. | Portland |
| McMahon, Linus Thomas | Com. | Voc. | Portland |
| McMaster, Robert George | Com. | Soph. | Corvallis |
| McMinus, Alura Irene | | Opt. | McMinnville |
| McMonigle, Edward B. | Com. | Fr. | Boise, Idaho |
| McMoran, Ervin G. | Com. | Fr. | Dayton |
| McMullen, Thomas F. | M.E. | Soph. | Portland |
| McNamee, George Paul Jr. | M.E. | Sr. | Beaverton |
| McNeely, Robert Emmett | Agri. | Jr. | Bend |
| McNeil, Donald John | M.E. | Sr. | Portland |
| McNulty, Luther | C.E. | Jr. | Oregon City |
| McPhail, Christina May | Com. | Soph. | Pendleton |
| McPheeters, John MacMahon | Agri. | Spec. | Corvallis |
| McPherrren, Perry Oliver | Agri. | Fr. | Albany |
| McPherson, Ann Lavilla | H.Ec. | Soph. | Portland |
| McPherson, Walter Jay | M.E. | Jr. | Forest Grove |
| McVey, Albert Vernon | M.E. | Jr. | Lewiston, Mont. |
| Maberly, Grace Madeline | Com. | Sr. | Corvallis |
| Maberly, Sarah Alice | H.Ec. | Jr. | Corvallis |
| Maberly, Thomas Edward | Agri. | Sr. | Corvallis |
| MacCracken, Chester Caldwell | Ch.E. | Jr. | Ashland |
| MacDonald, George Wittmer | Agri. | Fr. | Hillsboro |
| MacDonald, Horace T. | M.E. | Jr. | Scappoose |
| MacDonald, Jock Lorraine | C.E. | Sr. | Vancouver, B. C. |
| Mack, Earl W. | Agri. | Jr. | Klamath Falls |
| Mackenzie, Harold Austin | E.E. | Jr. | Hoquiam, Wash. |

UNDERGRADUATE STUDENTS

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| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|---------------------|
| Mackenzie, Thomas Theodore | Ch.E. | Fr. | Lostine |
| Macpherson, Donald Frederick | Agri. | Sr. | Pasadena, Cal. |
| Macy, Evelyn | H.Ec. | Spec. | McMinnville |
| Madison, Pearl A. | Com. | Soph. | Cambridge, Idaho |
| Madsen, Victor Severine | Agri. | Soph. | Silverton |
| Maggini, Estella Mary | H.Ec. | Fr. | Sheridan |
| Maggini, Fred L. | E.E. | Fr. | Sheridan |
| Maggini, Nina | Phar. | Fr. | Sheridan |
| Magill, Paul La Frone | Ch.E. | Soph. | Nampa, Idaho |
| Magney, Arthur Zentner | I.A. | Fr. | Corvallis |
| Magney, Leonard Xenophone | Com. | Fr. | Corvallis |
| Magnuson, Elsie Ann | Voc.Ed. | Soph. | Everett, Wash. |
| Magnuson, Roy William | Agri. | Jr. | Everett, Wash. |
| Mahany, Forrest Charles | M.E. | Soph. | The Dalles |
| Maki, Oscar Emil | M.A. | Voc. | Lakeside |
| Malcolm, Harriett Marion | Com. | Soph. | Portland |
| Malgesini, Gioble John | Agri. | Voc. | Monroe, Wash. |
| Malhotra, Des Ray | For. | Soph. | India |
| Mallery, Thomas Dwight | Agri. | Fr. | Corvallis |
| Malmin, Martin Edward | Com. | Sr. | St. Helens |
| Mandley, Wilfred James | E.E. | Jr. | Chelan Falls, Wash. |
| Mann, Norman Alva | C.E. | Fr. | Klamath Falls |
| Manning, Elisha Elbert | E.E. | Fr. | McMinnville |
| Manning, James Brownlow | E.E. | Jr. | McMinnville |
| Manning, Mrs. Pebble B. | H.Ec. | Soph. | Corvallis |
| Markham, Fred Orval | M.E. | Soph. | Freewater |
| Marks, Ralph Lewis | Agri. | Fr. | Modesto, Calif. |
| Marks, Roland Foster | Phar. | Fr. | Halsey |
| Marr, David R. | Com. | Sr. | Dundee |
| Marr, Lorena Edith | H.Ec. | Fr. | Portland |
| Marsh, Harold Berton | Agri. | Soph. | Tumalo |
| Marsh, Raymond Henry | Agri. | Soph. | Hemet, Cal. |
| Marshall, Katharine | Com. | Soph. | Gervais |
| Marsters, Vivian Bertha | H.Ec. | Jr. | Salem |
| Martin, Esse Samuel | E.E. | Spec. | Honor, Mich. |
| Martin, Estella Lucille | H.Ec. | Jr. | Portland |
| Martin, Hazel Drusilla | H.Ec. | Soph. | Boise, Idaho |
| Martin, Hubert Barnard | E.E. | Soph. | Portland |
| Martin, James F. | Com. | Fr. | McMinnville |
| Martins, Henry A. | Phar. | Soph. | Chinook, Mont. |
| Martz, Raymond Paul | Agri. | Voc. | Sunnyside, Wash. |
| Martvin, Jennie Margaret | H.Ec. | Jr. | Merlin |
| Mason, Cora Elizabeth | Com. | Fr. | Corvallis |
| Mason, George Harold | Agri. | Fr. | Webster, N. Y. |
| Mason, George Steiner | Agri. | Soph. | Corvallis |
| Mason, Martha Ann | H.Ec. | Soph. | Jefferson |
| Mason, Morton | Agri. | Fr. | Pasadena, Cal. |
| Mason, Ruth Irene | Com. | Jr. | Portland |
| Mast, Carlton Eugene | Com. | Soph. | Pomeroy, Wash. |
| Masterton, Jennie Naomi | | Opt. | Molalla |
| Masterton, John P. | Com. | Sr. | Sixes |
| Mataban, Atanasio Casingal | Agri. | Soph. | San Francisco, Cal. |
| Mateo, Mauricio Lino | Agri. | Fr. | Philippines |
| Mathes, Clarence Le Roy | Agri. | Jr. | Portland |
| Matthews, Erick Nelson | Agri. | Voc. | Prosser, Wash. |
| Matthews, Ethel Marie | H.Ec. | Voc. | Springfield, Ill. |
| Mathisen, Phillip Joe | Agri. | Soph. | Portland |
| Matlock, Grace Agnes | Com. | Spec. | Corvallis |
| Matthews, Gordon Henry | Phar. | Fr. | Portland |
| Matthews, Lester Orr | Agri. | Soph. | Sawtelle, Cal. |
| Matthewson, Lucius Edward | Com. | Fr. | Pendleton |
| Mattley, Helen Gail | H.Ec. | Sr. | Oregon City |
| Matz, Harry | M.A. | Voc. | Portland |
| Mauerman, Marie Elsie | H.Ec. | Fr. | Dryad, Wash. |
| Maxwell, Antony Ewin | For. | Fr. | Elgin |
| Maxwell, Marion Leslie | M.E. | Soph. | Tangent |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-------------------------------|-------------------|-------------|----------------------|
| Maxwell, Robert Wesley | Com. | Fr. | Portland |
| May, Marcus W. | Agri. | Spec. | Pendleton |
| May, Wallace L. | Agri. | Jr. | The Dalles |
| Maylor, Howard Lindsay | Com. | Fr. | Oak Harbor, Wash. |
| Mayo, Mark Rex | Agri. | Voc. | Portland |
| Mays, Chancy Robert | Agri. | Voc. | Harrisburg |
| Mays, Flora Firestone | H.Ec. | Sr. | Ash Grove, Mo. |
| Means, Milo T. | Agri. | Sr. | Philomath |
| Mecklem, Kenneth Collins | Agri. | Fr. | Portland |
| Meder, Lester Cults | Ch.E. | Fr. | Carson City, Nev. |
| Medina, Augusto Llamas | Agri. | Jr. | Philippine Islands |
| Meedel, George William | I.A. | Soph. | Carlton |
| Meindl, Lazelle Bingman | Agri. | Fr. | Oregon City |
| Meinig, Alfred Richard | E.E. | Soph. | Sandy |
| Meinig, Frances Marguerite | Com. | Fr. | Sandy |
| Meinig, Gertrude Louise | Com. | Soph. | Sandy |
| Melis, Percy Edgar | For. | Jr. | Mist |
| Menagh, Pauline | Com. | Fr. | Bremerton, Wash. |
| Mende, Herman Wm. | Agri. | Jr. | Hood River |
| Mendenhall, Frank Barton | For. | Jr. | Sheridan |
| Mercer, Robert Allen | E.E. | Soph. | Gresham |
| Mercer, Robert Hugh | Mines | Jr. | Cooston |
| Meredith, Jennette | Com. | Spec. | Salem |
| Merklin, Chester Philip | Com. | Jr. | Walla Walla, Wash. |
| Merrill, Harold Felt | E.E. | Fr. | Corvallis |
| Merrill, Samuel | Agri. | Soph. | Pasadena, Cal. |
| Merrill, Walter Bennett | E.E. | Fr. | Corvallis |
| Merriott, William Andrew | E.E. | Sr. | Milwaukee |
| Merritt, Edna May | | Opt. | Merrill |
| Merryfield, Fred | C.E. | Jr. | England |
| Meserve, Imogene | H.Ec. | Soph. | Grays River, Wash. |
| Mespelt, Arthur Peter | Agri. | Spec. | San Bernardino, Cal. |
| Messelheiser, Arthur Clemence | Com. | Fr. | Long Beach, Cal. |
| Messenger, Uram Henry | Agri. | Fr. | Boardman |
| Metsker, Dorothy Mae | H.Ec. | Fr. | St. Helens |
| Metzler, Glen Arthur | For. | Fr. | Corvallis |
| Meyerhoeffer, Virginia | Com. | Sr. | Portland |
| Michelbrook, Herbert Stephen | Agri. | Sr. | Walla Walla, Wash. |
| Mickelwait, Dean Woods | Agri. | Jr. | Twin Falls, Idaho |
| Mielke, James Leroy | For. | Fr. | Stayton |
| Miles, Anna Afton | H.Ec. | Sr. | Salem |
| Miley, Julian Joseph | Com. | Soph. | Fresno, Cal. |
| Miller, Arthur Everett | Agri. | Fr. | Seattle, Wash. |
| Miller, Ava Helen | H.Ec. | Fr. | Corvallis |
| Miller, Bayard Arthur | Com. | Soph. | Gresham |
| Miller, Bertha Ruth | Com. | Fr. | Salem |
| Miller, Cecil Melvin | C.E. | Spec. | Centralia, Wash. |
| Miller, Clay Carl | Agri. | Jr. | Corvallis |
| Miller, Conrad | Agri. | Voc. | Linnton |
| Miller, Dalton Walter | E.E. | Fr. | Richland |
| Miller, Edward Elmer | Com. | Fr. | Woodburn |
| Miller, Ernest Le Roy | E.E. | Fr. | Klamath Falls |
| Miller, Esta Dorothy | H.Ec. | Fr. | The Dalles |
| Miller, Everett H. | Com. | Soph. | Long Beach, Cal. |
| Miller, Franklin, John | M.E. | Spec. | Albany |
| Miller, Gladys Grace | H.E. | Sr. | Portland |
| Miller, Glenn Leon | C.E. | Soph. | Turner |
| Miller, Harley Ray | E.E. | Soph. | Wolf Point, Mont. |
| Miller, Herman Newton | E.E. | Jr. | Scappoose |
| Miller, Homer D. | Agri. | Jr. | Corvallis |
| Miller, Horace Norman | E.E. | Jr. | Scappoose |
| Miller, Irwin Riner | Com. | Jr. | Portland |
| Miller, Jean | Com. | Fr. | White Salmon, Wash. |
| Miller, Leila Myrl | Com. | Fr. | Portland |
| Miller, Marian Louise | H.Ec. | Jr. | Salem |
| Miller, Marlowe Esther | H.Ec. | Fr. | Salem |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|---------------------|
| Miller, Mary Maxine | H.Ec. | Sr. | Corvallis |
| Miller, Milton Marion | Agri. | Sr. | Corvallis |
| Miller, Murray Raymond | E.E. | Soph. | Park Ridge, Ill. |
| Miller, Norma A. | H.Ec. | Spec. | Corvallis |
| Miller, Palmer | Ch.E. | Soph. | Portland |
| Miller, Pierre Alphonse | Agri. | Soph. | Portland |
| Miller, Ralph Waldo | Com. | Spl. | Corvallis |
| Miller, Thelma Dean | H.Ec. | Soph. | Portland |
| Miller, Trula Martha | H.Ec. | Jr. | Halsey |
| Miller, Vernon Olney | Com. | Voc. | Long Beach, Cal. |
| Miller, Vondis Elbert | E.E. | Fr. | Halsey |
| Miller, William Harold | Agri. | Soph. | Canada |
| Miller, Wilma Delphine | H.Ec. | Jr. | Macleay |
| Milligan, Riley Moy | I.A. | Soph. | Rialto, Cal. |
| Mills, Estella | Com. | Fr. | Ukiah |
| Mills, Ruth Loraine | Voc.Ed. | Jr. | Monroe |
| Milne, Donald Lawson | E.E. | Spec. | Seattle, Wash. |
| Minton, Leslie Arza | Agri. | Voc. | Mosier |
| Minty, George Ray | Agri. | Voc. | The Dalles |
| Misra, Dwarka Nath | Agri. | Jr. | India |
| Misz, Donald Francis | E.E. | Jr. | Canby |
| Mitchell, Edgar Malcolm | E.E. | Soph. | Sandy |
| Mitchell, Gordon Eugene | E.E. | Fr. | Richland, Wash. |
| Mitchell, Harry Earl | C.E. | Soph. | Sandy |
| Mitchell, Marvin James | Com. | Fr. | Medford |
| Mize, Pauline Augusta | H.Ec. | Spec. | Corvallis |
| Moad, Logen | Agri. | Voc. | Newberg |
| Moad, Marshall D. | Agri. | Spec. | Newberg |
| Modesti, Benjamin | Agri. | Soph. | Los Angeles, Cal. |
| Moe, Frances | Com. | Soph. | Hood River |
| Moe, Mark E. | Com. | Jr. | Hood River |
| Mohney, Curtis Gilliam | Mines | Sr. | Salem |
| Mohney, William D. | Com. | Sr. | Salem |
| Monjay, William Oden | Com. | Soph. | Corvallis |
| Monosmith, Howard Vern | C.E. | Soph. | Albany |
| Monosmith, Maurice G. | E.E. | Jr. | Albany |
| Monroe, Marion Parker | Com. | Soph. | Portland |
| Montgomery, Alfred Samuel | Mines | Fr. | Salem |
| Montgomery, Clarence Vaughan | Com. | Soph. | Klamath Falls |
| Montgomery, Faye Lucy | H.Ec. | Fr. | King Hill, Idaho |
| Montgomery, Glenn William | Agri. | Voc. | Goldendale, Wash. |
| Montgomery, Loyd Byron | Com. | Jr. | Pendleton |
| Moomaw, Harold A. | M.E. | Jr. | Hubbard |
| Moore, Albert Watts | Agri. | Jr. | Williamsport, Pa. |
| Moore, Cecile Maria | H.Ec. | Fr. | Ashland |
| Moore, Dallas Malcolm | Com. | Fr. | Corvallis |
| Moore, Elmer Homer | For. | Voc. | Tiller |
| Moore, Ellwood Burdsall | Agri. | Jr. | Eugene |
| Moore, Ernest Fay | Agri. | Voc. | Turner |
| Moore, Harold Edward | Com. | Fr. | Mt. Vernon, Wash. |
| Moore, Helen A. | Com. | Sr. | Salem |
| Moore, James C. | Agri. | Spec. | Bluefield, W. Va. |
| Moore, Jeanette | H.Ec. | Fr. | Hoquiam, Wash. |
| Moore, Mabel Lenora | H.Ec. | Fr. | Ashland |
| Moore, Myrton Miles | C.E. | Jr. | Portland |
| Moore, Olive Elizabeth | Com. | Soph. | Portland |
| Moore, William Clark | Agri. | Fr. | Mt. Vernon, Wash. |
| Moran, James C. | C.E. | Jr. | Portland |
| Morback, Edna Jane | H.Ec. | Soph. | Sherwood |
| Moreland, Herber Myron | Agri. | Sr. | Portland |
| Moreland, Ruth Aurelia | H.Ec. | Soph. | Portland |
| Morgan, Exie | Agri. | Jr. | The Dalles |
| Morgan, Gilbert Davis | For. | Jr. | Portland |
| Morgan, Nellie | Voc.Ed. | Fr. | Corvallis |
| Morian, Gladys | H.Ec. | Fr. | Portland |
| Morley, Elsie Myrtle | Com. | Soph. | Corvallis |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|-----------------------|
| Morrill, Alan Graham | Com. | Jr. | Vancouver, B. C. |
| Morris, Frances Sarah | H.Ec. | Soph. | Portland |
| Morris, Franklin Buford | Phar. | Fr. | Albany |
| Morris, Gwendolyn Alice | Voc.Ed. | Fr. | Corvallis |
| Morris, Kathleen Elnora | Voc.Ed. | Fr. | Huntington |
| Morris, Lottie Elizabeth | Com. | Fr. | Yamhill |
| Morrison, Wm. King | Agri. | Fr. | Fullerton, Cal. |
| Morrow, Clifford Frank | Phar. | Fr. | Tygh Valley |
| Morse, Clayton Cornell | For. | Fr. | Portland |
| Morse, Leander Charles | M.E. | Sr. | Berkeley, Cal. |
| Morse, Wilmer Wayne | Agri. | Fr. | Sacramento, Cal. |
| Mosby, David Clayborn | Voc.Ed. | Sr. | Cottage Grove |
| Moser, Anna M. | H.Ec. | Jr. | Gravel Ford |
| Moser, Helen Agnes | Voc.Ed. | Fr. | Corvallis |
| Moser, Howard Paul | Com. | Voc. | Corvallis |
| Moss, Bernice Ruth | H.Ec. | Soph. | Hood River |
| Mowat, Edwin Louis | For. | Soph. | Ashland |
| Mueller, Francis C. | E.E. | Soph. | Vale |
| Mueller, Vina E. | Phar. | Soph. | Vale |
| Muhr, Carl O. | | Opt. | Warren |
| Muri, Andrew Glenn | M.E. | Fr. | Portland |
| Mulkey, L. Ivan | For. | Jr. | Corvallis |
| Mulkey, Wendell T. | M.E. | Soph. | Vale |
| Mullenhoff, Rudolf Ernest J. | Agri. | Voc. | Boring |
| Mulligan, William P. | Agri. | Spec. | Seattle, Wash. |
| Munger, William Ned | Phar. | Soph. | Portland |
| Munger, Burton L. | Agri. | Soph. | Santa Paula, Cal. |
| Murdock, Kenneth McClain | For. | Fr. | South Bend, Wash. |
| Muribo, Anton | Agri. | Spec. | Norway |
| Murray, Agnes Thompson | Voc.Ed. | Soph. | Corvallis |
| Murray, Albert Samuel | C.E. | Sr. | Pocatello, Idaho |
| Murray, John Raymond | E.E. | Fr. | Cherryville |
| Murray, Nettie Lorene | Voc.Ed. | Jr. | Falls City |
| Murray, Percy | Agri. | Jr. | Roy, Wash. |
| Murray, Ruth Jean | Voc.Ed. | Fr. | Corvallis |
| Murton, Jack Hatfield | E.E. | Jr. | Portland |
| Mustard, Walter | Agri. | Voc. | Vale |
| Myers, George Auxier | Com. | Spec. | Central Point |
| Myers, George Edward | Com. | Jr. | Corvallis |
| Myers, Harry L. | Agri. | Sr. | Eugene |
| Myers, Henry G. | M.E. | Soph. | Portland |
| Myers, James Elton | C.E. | Soph. | Oregon City |
| Myers, William Claude | Com. | Fr. | Condon |
| Napper, John Fred | M.A. | Voc. | Creswell |
| Narver, Ursel Colin | Agri. | Fr. | Beaverton |
| Neal, Gladys Olive | | Opt. | Gresham |
| Nebo, Leonard Wm. | Agri. | Voc. | Portland |
| Neeb, Jennings Bryan | Ch.E. | Jr. | Ontario |
| Neel, Reita Delaine | Com. | Fr. | Heppner |
| Neer, Thomas Earl | Agri. | Spec. | Turner |
| Neil, George C. | M.E. | Soph. | Oak Harbor, Wash. |
| Nelson, Alfie Adeline | H.Ec. | Soph. | Portland |
| Nelson, Ann Margaret | Com. | Jr. | Astoria |
| Nelson, Bernice Irene | H.Ec. | Sr. | Corvallis |
| Nelson, Charles Harold | Agri. | Soph. | Mt. Vernon, Wash. |
| Nelson, David Adolph | Phar. | Soph. | St. Maries, Idaho |
| Nelson, Edwin H. | Com. | Fr. | Astoria |
| Nelson, Eiven | E.E. | Soph. | So. Bellingham, Wash. |
| Nelson, Florence Louise | H.Ec. | Spec. | Portland |
| Nelson, George Lester | C.E. | Soph. | Glendale |
| Nelson, Grant Harris | Agri. | Spec. | Worden |
| Nelson, Helen Marguerite | H.Ec. | Fr. | Doty, Wash. |
| Nelson, John M. | Agri. | Voc. | Everett, Wash. |
| Nelson, Oscar Henry | E.E. | Fr. | Council, Idaho |
| Nesbit, Dorothy Virginia | Com. | Soph. | Astoria |
| Neumann, Eleanor | H.Ec. | Soph. | Seattle, Wash. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|---------------------|
| Neville, David John | C.E. | Soph. | Balboa, Canal Zone |
| Neville, Ira Clifford | Phar. | Spec. | Ashland |
| Newbill, Charley Joseph | Com. | Fr. | Ontario |
| Newell, Charles Harold | Com. | Soph. | Toppenish, Wash. |
| Newell, Laura Evangeline | H.Ec. | Sr. | Portland |
| Newell, Lila Elsie | | Opt. | Sitka, Alaska |
| Newhouse, Carla Marghretta | H.Ec. | Sr. | The Dalles |
| Newhouse, Chadwick Chas. | Com. | Jr. | Portland |
| Newhouse, Charlotte Ann | H.Ec. | Fr. | The Dalles |
| Newman, Paul Clinton | Agri. | Sr. | Corvallis |
| Newmyer, Wm. Roy | Agri. | Jr. | Chemawa |
| Newport, Mary Louise | Com. | Soph. | Lebanon |
| Nichols, Albert Loyd | Agri. | Jr. | Santa Paula, Cal. |
| Nichols, John Ralph | Agri. | Sr. | Palo Alto, Cal. |
| Nichols, Madison | C.E. | Sr. | Salem |
| Nichols, Mildred Elva | H.Ec. | Spec. | Dayton |
| Nichols, Stilley Riddle | Com. | Fr. | Riddle |
| Nicholson, Frances Belle | H.Ec. | Jr. | Medford |
| Nicholson, Frances | Phar. | Sr. | Puyallup, Wash. |
| Nicholson, Theodore Russell | Agri. | Fr. | Medford |
| Nick, Jerome Thomas | Agri. | Jr. | Los Angeles, Cal. |
| Nielsen, Agnes Petrea | Com. | Fr. | Hayward, Cal. |
| Nielsen, Alice Jane | Com. | Soph. | Piedmont, Cal. |
| Niemi, John Arthur | Com. | Voc. | Naselle, Wash. |
| Niles, Florence Evelyn | H.Ec. | Sr. | Eugene |
| Niles, Marjorie Helen | Voc.Ed. | Soph. | Grants Pass |
| Nixon, Richard Alexander | Agri. | Soph. | Oregon City |
| Noonan, Chester Kingston | Com. | Fr. | Astoria |
| Nordby, Thomas Wesley Jr. | Com. | Fr. | Portland |
| Nordgren, John V. | Agri. | Spec. | Bellingham, Wash. |
| Nordgren, Lilly M. E. | Com. | Soph. | McMinnville |
| Nordstrom, Esther Elizabeth | H.Ec. | Soph. | Portland |
| Noreen, Edward Cornelius | | Opt. | Gresham |
| Norene, Jennie | Com. | Jr. | Bend |
| Norman, Mabel Viola | Com. | Fr. | Milton |
| Normile, Arlene Edna | Com. | Fr. | Medford |
| Norris, Robert Kearney | Agri. | Jr. | Medford |
| Norris, Ross Henry | Com. | Fr. | Burlington, Wash. |
| North, William Edward | Agri. | Soph. | Kalama, Wash. |
| Norton, Marion Guy | Agri. | Voc. | Yakima, Wash. |
| Notson, Edward Albert | C.E. | Jr. | Heppner |
| Novinger, Fred B. | Com. | Soph. | Long Beach, Cal. |
| Nusbaum, Betty Evelyn | H.Ec. | Jr. | Portland |
| Nutter, Gertrude | Com. | Fr. | Portland |
| Nutting, Bernard Lee | For. | Jr. | Brookings |
| Nye, Stephen Sim | Com. | Sr. | Medford |
| Oatfield, Beatrice Joyce | H.Ec. | Soph. | Skamokawa, Wash. |
| Oatfield, Ernest W. | Com. | Spec. | Milwaukie |
| Ober, Blythe Henry | C.E. | Jr. | Portland |
| Ober, Theodore Marion | Mines | Soph. | Portland |
| Oberle, J. Howard | M.E. | Fr. | Portland |
| O'Bryant, H. Aubrey | Com. | Soph. | Baker |
| O'Conner, Alma | | Opt. | Aberdeen, Wash. |
| Oden, Reatha Louella | H.Ec. | Spec. | Dairy |
| Offield, Lester C. | Com. | Jr. | Merrill |
| Ohm, John Charles | Mines | Soph. | Portland |
| Oliver, Cora Barkley | H.Ec. | Fr. | Corvallis |
| Olsen, Carl Ivan | Ch.E. | Fr. | Sherwood |
| Olsen, Herbert Julius | Agri. | Jr. | Colita, Cal. |
| Olsen, Truman | Com. | Spec. | Corvallis |
| Olson, Elmer Sylvester | Agri. | Voc. | Salem |
| Olson, Harold Raymond | I.A. | Jr. | Woodburn |
| Olson, Ida | H.Ec. | Jr. | Toledo |
| Olson, Laura L. | Com. | Spec. | Benton |
| Olson, Oliff Neil | C.E. | Fr. | Corvallis |
| Olson, Royal Clarence | E.E. | Soph. | Silverton |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|---------------------------------|-------------------|-------------|---------------------|
| Olson, Sifgred G. | E.E. | Sr. | Albany |
| Olson, Walter Daniel | E.E. | Sr. | Portland |
| Omta, Grace Herrick | H.Ec. | Fr. | Bozeman, Mont. |
| O'Neill, Elsie Maude | H.Ec. | Soph. | Vale |
| O'Rourke, Roscoe N. | Ch.E. | Jr. | Portland |
| Orser, Eva Berneice | H.Ec. | Soph. | Portland |
| Osborn, Fred Percy | Agri. | Jr. | Portland |
| Osborne, Gifford Lawson | For. | Sr. | Aurora |
| Osborne, Mentor Marion | Agri. | Voc. | Harrah, Wash. |
| Ostman, Anna M. | Com. | Spec. | Corvallis |
| Ostman, Thure E. | Agri. | Voc. | West Linn |
| Ostrom, John Clarence | Agri. | Jr. | Waterman, Wash. |
| Ostrum, Richard Jacob | M.E. | Sr. | Portland |
| Ottke, Harry | Com. | Voc. | Kamela |
| Ottoman, Frank | Com. | Voc. | Malin |
| Owen, Robert L. | Agri. | Voc. | Idaho Falls, Idaho |
| Owens, Elizabeth | Voc.Ed. | Soph. | Raymond, Wash. |
| Owens, Lillian W. | H.Ec. | Soph. | Medford |
| Owens, Thomas Siler | For. | Sr. | Raymond, Wash. |
| Owens, William Osborne | For. | Sr. | Raymond, Wash. |
| Ownbey, Ona | H.Ec. | Jr. | Freewater |
| Owsley, Alfred Thomas | Com. | Sr. | La Grande |
| Pace, Franklin Dewey | E.E. | Jr. | Corvallis |
| Packard, Otto Bernard | Ch.E. | Sr. | Santa Ana, Cal. |
| Paddack, Earl Wm. | C.E. | Jr. | Oregon City |
| Paddack, Harvey Levi | Agri. | Jr. | Eugene |
| Page, Chester L. | E.E. | Sr. | Eddyville |
| Page, Orrin Otto | M.A. | Voc. | Marcola |
| Page, Sam Ray | Phar. | Spec. | Sulphur Lick, Ky. |
| Paine, Roscoe B. | Agri. | Soph. | Eugene |
| Paine, Vernon V. | Agri. | Fr. | Eugene |
| Painter, William Wayne | C.E. | Fr. | North Bend |
| Palfrey, Ernest Ralph | Agri. | Jr. | Molalla |
| Palmer, Averil Garald | Agri. | Voc. | Jordan Valley |
| Palmer, Claude Funston | Com. | Sr. | Corvallis |
| Palmer, Dean F. | Agri. | Jr. | Upland, Cal. |
| Palmer, Malcolmn George | Com. | Fr. | Jordan Valley |
| Pankonin, Arthur Fred | E.E. | Fr. | The Dalles |
| Pape, Albert Hermann | Agri. | Fr. | Corvallis |
| Papke, Elizabeth Victoria | Com. | Fr. | Port Angeles, Wash. |
| Pardee, J. B. | C.E. | Sr. | Grants Pass |
| Pardee, Robert M. | Agri. | Voc. | Yocum |
| Parker, Charles Henry | I.A. | Jr. | Oakland |
| Parker, Clinton B. | E.E. | Fr. | Medford |
| Parker, J. Roland | Agri. | Sr. | Medford |
| Parker, Leonard Clifton | E.E. | Jr. | Portland |
| Parker, Ralph Melton | E.E. | Soph. | Forest Grove |
| Parker, Stella | H.Ec. | Jr. | Myrtle Point |
| Parkinson, Robert Lee | Com. | Jr. | Portland |
| Parmentor, Harold Edwin | E.E. | Fr. | Portland |
| Parnin, Viron Raymond | Agri. | Soph. | Alhambra, Cal. |
| Parson, Arvid Ferdinand | C.E. | Fr. | Carrolls, Wash. |
| Parsons, Arthur M. | M.A. | Voc. | Albany |
| Partridge, James McLellan | Mines | Fr. | Monmouth |
| Paschelke, Arthur | E.E. | Soph. | Marcola |
| Parchelke, Walter | M.A. | Voc. | Marcola |
| Patch, Donald Howard | Mines | Fr. | Weiser, Idaho |
| Patchett, Walter Cecil | Agri. | Sr. | Corvallis |
| Patchin, Alonzo William | Agri. | Sr. | Salem |
| Patchin, Julia Harriett | H.Ec. | Sr. | Salem |
| Patchin, Nellie | H.Ec. | Sr. | Salem |
| Pate, Manford Russell | E.E. | Fr. | Corvallis |
| Patrick, Donald | Com. | Jr. | Corvallis |
| Patrick, Roy La Velle | Com. | Soph. | Detroit |
| Patterson, Deane J. | Phar. | Fr. | Corvallis |
| Patterson, Dorothy Gray | Com. | Fr. | Salem |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|---------------------|
| Patterson, Harold P. | M.E. | Soph. | Canyon City |
| Patterson, Mrs. Mildred Cora | H.Ec. | Spec. | Corvallis |
| Patterson, Vincent Miller | Agri. | Sr. | Eugene |
| Pattin, Ruth Louise | H.Ec. | Sr. | Shawnee, Wyo. |
| Pattison, Cora Annette | Com. | Fr. | Bakersfield, Cal. |
| Patton, Lyman William | Agri. | Jr. | Oswego |
| Patton, Mary Irving | H.Ec. | Spec. | Oswego |
| Patty, Frank A. | Agri. | Jr. | La Grande |
| Paul, Wm. Howard | M.E. | Jr. | Redlands, Cal. |
| Pauling, Linus Carl | Ch.E. | Sr. | Portland |
| Paulsen, Eugene Chester | Mines | Spec. | Albany |
| Paulson, Amanda Sylena | Com. | Jr. | Corvallis |
| Paulson, Edla | H.Ec. | Jr. | Portland |
| Paulson, Reinhold M. L. | Agri. | Spec. | Chicago, Ill. |
| Payne, George Franklin | Agri. | Sr. | Corvallis |
| Payne, Lois Marguerite | H.Ec. | Jr. | Northfield, Minn. |
| Payton, Wesley Eugene | Agri. | Jr. | Baker |
| Payton, Clifford Walter | Agri. | Voc. | Portland |
| Peabody, Margaret Elnora | Com. | Fr. | Centralia, Wash. |
| Peabody, Margaret Sarah | Phar. | Soph. | Castle Rock, Wash. |
| Peachy, Alfred James | Agri. | Voc. | Brownsville |
| Peaper, Alice | H.Ec. | Fr. | Portland |
| Pearce, Walter Trivette | Com. | Soph. | Seattle, Wash. |
| Peat, Harriet Martha | H.Ec. | Jr. | Portland |
| Peavy, Bradley Adelbert | For. | Spec. | Corvallis |
| Peavy, George Darwin | Phar. | Jr. | Corvallis |
| Peil, Fay Elizabeth | H.Ec. | Jr. | Corvallis |
| Pearce, Howard Maxwell | Agri. | Soph. | Portland |
| Pemberton, Robert Barkley | C.E. | Jr. | Whittier, Cal. |
| Pence, Edna Louise | H.Ec. | Fr. | Portland |
| Pentzer, Wilbur T. | Agri. | Jr. | Pasadena |
| Pepin, Harry Ernest | E.E. | Voc. | Corvallis |
| Perin, Charles Archie | Com. | Fr. | Monroe |
| Perkins, Arthur B. | Agri. | Jr. | Santa Ana, Cal. |
| Perkins, Lloyd Kincaid | M.E. | Fr. | Portland |
| Perkins, Nelson Albin | M.E. | Fr. | Empire |
| Perow, Robert | Agri. | Fr. | Modesto, Cal. |
| Perry, Frances Elizabeth | Voc.Ed. | Jr. | Medford |
| Perry, Glen Edwin | Agri. | Soph. | Walla Walla, Wash. |
| Perry, Harry M. | Agri. | Soph. | Corvallis |
| Perry, William McGuire | Agri. | Sr. | Houlton |
| Personius, Thomas | Agri. | Voc. | Lakewood, Wash. |
| Peters, Amos Benjamin | Agri. | Fr. | Wenatchee, Wash. |
| Peterson, Alton Le Roy | Com. | Sr. | Culbertson, Mont. |
| Peterson, Bertha Irene | H.Ec. | Fr. | Portland |
| Peterson, David Conrad | Com. | Jr. | Gresham |
| Peterson, Esther Helen | H.Ec. | Jr. | Portland |
| Peterson, George Fredick | Com. | Spec. | Yakima, Wash. |
| Peterson, Harold | For. | Soph. | Portland |
| Peterson, Harry Benard | E.E. | Fr. | Astoria |
| Peterson, John Henry | Agri. | Voc. | Linton |
| Peterson, John Hilmar | C.E. | Jr. | Knappa |
| Peterson, Lydia Mary Louise | Com. | Voc. | Portland |
| Peterson, Mildred Lucille | Com. | Soph. | Yakima, Wash. |
| Peterson, Otto William | Agri. | Spec. | Yakima, Wash. |
| Peterson, Sam N. | Agri. | Jr. | McMinnville |
| Peterson, Wallace Elmer | M.E. | Jr. | Anaconda, Mont. |
| Peterson, William R. | Com. | Voc. | Corvallis |
| Petite, Palmer H. | M.E. | Jr. | Heisson, Wash. |
| Pettinger, Lois Hudson | H.Ec. | Jr. | Oswego |
| Pettingill, George Freeman | Ch.E. | Sr. | Newberg |
| Pettersen, Asage Emil | Agri. | Jr. | Denmark |
| Petty, Ercel Earl | Com. | Spec. | Corvallis |
| Pfeiffer, Charles Frank | M.E. | Sr. | Albany |
| Pfeiffer, David Andrew | Agri. | Fr. | Walla Walla, Wash. |
| Pfeiffer, Alvin Payne | For. | Soph. | Corvallis |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| Pfeiffer, Karl | For. | Soph. | Corvallis |
| Philippi, Hazel Dolores | Com. | Fr. | Scio |
| Philippi, Leora | | Opt. | Arlington |
| Phillips, Mrs. Beth Ray | H.Ec. | Spec. | Corvallis |
| Phillips, Darwin Thair | Ch.E. | Spec. | Warrenton |
| Phillips, Frank Lester | I.A. | Voc. | Chehalis, Wash. |
| Phillips, Gentry Lloyd | E.E. | Fr. | Portland |
| Phillips, Harrison Nye | Com. | Spec. | Mehama |
| Phillips, James Robert | Agri. | Sr. | Portland |
| Phillips, Raymond | For. | Spec. | Corvallis |
| Piatt, Wm. P. | Agri. | Spec. | Corvallis |
| Pickard, Archie Neil | I.A. | Spec. | Corvallis |
| Pickering, Elwood Ellis | Agri. | Soph. | Los Angeles, Cal. |
| Pickett, Bruce F. | Com. | Jr. | Gold Hill |
| Pickle, Walter Ray | Agri. | Voc. | Corvallis |
| Pieper, Paul Summer | For. | Voc. | Milwaukie |
| Pierce, Belle Lucile | H.Ec. | Fr. | Vancouver, Wash. |
| Pierce, Walter James | Com. | Soph. | Mt. Vernon, Wash. |
| Pierson, Joshua Lathrop | Mines | Fr. | Hood River |
| Pietrok, Paul B. | Agri. | Voc. | Stayton |
| Pinckney, Lester Alexander | Agri. | Spec. | Aberdeen, Wash. |
| Pinkerton, James Richmond | Agri. | Voc. | Santa Paula, Cal. |
| Pinkerton, John Otten | Phar. | Spec. | Corvallis |
| Pitcher, Thomas Ambrose | E.E. | Fr. | Halfmoon Bay, Cal. |
| Plank, Claudia Almira | H.Ec. | Fr. | Portland |
| Plasket, Homer | Phar. | Fr. | Portland |
| Playle, Audmer Roy | Com. | Jr. | La Grande |
| Plog, Edna Louise | H.Ec. | Jr. | Hood River |
| Plowman, Blair Everett | E.E. | Fr. | Corvallis |
| Plummer, Robert | Agri. | Voc. | Imnaha |
| Plunkett, James Albert | Com. | Voc. | Corvallis |
| Poe, Wm. Arthur | Agri. | Fr. | Camas, Wash. |
| Polk, Mary Lucile | Com. | Fr. | Portland |
| Poole, George C. | Agri. | Soph. | Portland |
| Poole, Kenneth Clifford | Agri. | Jr. | Portland |
| Poole, Leslie Erving | M.E. | Sr. | Hillsboro |
| Pooler, Lewis Clinton | Com. | Fr. | Corvallis |
| Pooler, Loene | | Opt. | Corvallis |
| Poore, Taylor Howard | | Opt. | Corvallis |
| Pope, Ethel M. | H.Ec. | Sr. | Billings, Mont. |
| Pope, Wanda Marie | H.Ec. | Fr. | Merrill |
| Popham, Benjamin Ehlinger | M.E. | Jr. | Portland |
| Porteous, William | M.E. | Fr. | Fresno, Cal. |
| Porter, Irving William | Com. | Fr. | Ashland |
| Porter, James Larson | Phar. | Jr. | Ashland |
| Porter, Leonard Moody | M.A. | Voc. | Salem |
| Porter, Lloyd V. | M.A. | Voc. | Corvallis |
| Porter, Perry Nathan | Agri. | Spec. | Salem |
| Porterfield, Walter Lownie | Agri. | Soph. | Corvallis |
| Potdar, Bhagwant Govino | Ch.E. | Jr. | India |
| Pottenger, Cleone Mae | Com. | Fr. | Medford |
| Potter, Daryl Taylor | Mines | Spec. | Corvallis |
| Potter, Mrs. Etha | Com. | Spec. | Corvallis |
| Pound, John Cyril | E.E. | Soph. | John Day |
| Powell, Frieda Marguerite | H.Ec. | Soph. | Dallas |
| Powell, George Arthur | Com. | Sr. | Portland |
| Powell, Guy E. | Com. | Jr. | Portland |
| Powell, Hal Wolverton | Agri. | Soph. | Highland, Cal. |
| Powell, Norval H. | Agri. | Sr. | Cottage Grove |
| Powell, Virgil Alfred | C.E. | Jr. | Cottage Grove |
| Powers, Rufus Luther | Phar. | Fr. | Norfolk, Va. |
| Powne, Norman | E.E. | Sr. | Banks |
| Poy, Clarence Wm. | Mines | Soph. | Portland |
| Poysky, Charles | Agri. | Fr. | Astoria |
| Poysky, Eva Sophia | H.Ec. | Soph. | Astoria |
| Prael, Albert H. | M.E. | Jr. | Astoria |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|---------------------|
| Prather, Harry Albert | Phar. | Sr. | Klamath Falls |
| Prescott, Joyce May | | Opt. | Portland |
| Presley, Albert C. | Com. | Sr. | Newport |
| Preston, Lenore Elsie | Voc.Ed. | Soph. | Dallas |
| Price, Cecil Kessler | Com. | Fr. | Corvallis |
| Price, Charles Ray | Com. | Fr. | Portland |
| Price, F. Earl | Agri. | Sr. | Pomona, Cal. |
| Price, Francis Charles | For. | Fr. | Palo Alto, Cal. |
| Prier, Edward Theodore | Agri. | Soph. | Portland |
| Prince, Adelbert Henry | Voc.Ed. | Sr. | Corvallis |
| Pringle, Lester Clarence | E.E. | Soph. | Everett, Wash. |
| Proctor, Martha I. | H.Ec. | Voc. | Laurel |
| Prouty, Charles Clarence | Agri. | Jr. | Weiser, Idaho |
| Prouty, Edgar Ingalls | M.A. | Voc. | Weiser, Idaho |
| Prouty, Marjorie Wilmoth | Com. | Fr. | Weiser, Idaho |
| Prudhomme, Donald John | E.E. | Fr. | Portland |
| Pryse, E. Morgan | For. | Sr. | Corvallis |
| Pubols, Benjamin Henry | Agri. | Spec. | Hillsboro |
| Pubols, John R. | Agri. | Soph. | Hillsboro |
| Pulley, Metta Nora | Com. | Fr. | Corvallis |
| Puri, Hulkh Raj | Com. | Fr. | India |
| Purvance, Ernest Currin | E.E. | Fr. | Metlakatla, Alaska |
| Purvine, Lawrence | I.A. | Jr. | Salem |
| Pusey, George Edward | Com. | Fr. | Oregon City |
| Putnam, Nana Wait | Com. | Jr. | Salem |
| Pykonen, Tom Martin | Agri. | Voc. | Oak Point, Wash. |
| Quackenbush, Marion Dorothy | H.Ec. | Fr. | Portland |
| Quarton, Thomas Irving | Ch.E. | Jr. | Anaheim, Cal. |
| Quesinberry, Jeston Lucile | H.Ec. | Fr. | Trousdale |
| Quibilan, Guillermo Quintos | Phar. | Soph. | Philippine Islands |
| Quiner, John Hill | Mines | Jr. | Eugene |
| Quint, Alice E. | H.Ec. | Spec. | Portland |
| Rabeck, Genevieve | H.Ec. | Soph. | Olympia, Wash. |
| Raby, Walter Compton | Agri. | Spec. | Gooding, Idaho |
| Radovich, Nikolas | Agri. | Soph. | Jugo-Slavia |
| Ragsdale, Evelyn Ruth | H.Ec. | Soph. | Moro |
| Rahn, Fred Wm. | E.E. | Sr. | Pasadena, Cal. |
| Ralston, William John | Phar. | Jr. | Corvallis |
| Ramsby, Martin E. | Com. | Fr. | Klamath Falls |
| Ramsdell, John Andrew Jr. | M.A. | Voc. | Portland |
| Ramsdell, Robert Wayne | M.A. | Voc. | Portland |
| Ramsey, George Gerald | Mines | Soph. | Portland |
| Ramsy, Glenn Turner | Agri. | Soph. | Portland |
| Rands, Harry Allen | Com. | Jr. | Stayton |
| Rands, Hopewell Whittemore | Com. | Soph. | Corvallis |
| Rands, Wm. John | I.A. | Soph. | Stayton |
| Rankin, Charles Spafford | M.E. | Soph. | Portland |
| Rankin, Gray Sanford | Ch.E. | Soph. | Albany |
| Rankin, William John | Agri. | Jr. | Boise, Idaho |
| Ransom, John Grey | C.E. | Fr. | Shelburn |
| Ranzenbach, Oscar F. | E.E. | Fr. | Portland |
| Rasmussen, Malcolm S. | Com. | Soph. | Portland |
| Rasmussen, Sophia Engie | H.Ec. | Sr. | Milton |
| Rathbone, Tom Griffis | M.A. | Voc. | Portland |
| Rathkey, Marie Minnie | H.Ec. | Spec. | Portland |
| Rauch, Edward Nelson | Com. | Jr. | Tacoma, Wash. |
| Rauh, Irene Maxine | Com. | Fr. | Portland |
| Raver, Herald Brookins | M.A. | Voc. | Corvallis |
| Rawlings, Oliver Clark | Com. | Fr. | Corvallis |
| Rawson, Emma Alfrida | H.Ec. | Spec. | Corvallis |
| Raymond, Clara Jessimine | H.Ec. | Soph. | Baker |
| Read, Clifford Webster | Mines | Jr. | Portland |
| Read, Farra Leroy | Phar. | Sr. | Corvallis |
| Readen, Edna Hortense | H.Ec. | Jr. | Gresham |
| Readen, Erma Rowena | H.Ec. | Sr. | Gresham |
| Readen, Harold Walton | Com. | Sr. | Gresham |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|--------------------------------|-------------------|-------------|---------------------|
| Reagan, Charles H. | C.E. | Soph. | Ft. Towson, Okla. |
| Reams, Essie Marie | H.Ec. | Fr. | Prineville |
| Reck, Ernest Louis | Agri. | Voc. | Spokane, Wash. |
| Records, Della Susie | H.Ec. | Fr. | Freewater |
| Rector, Lewis Edwin | Agri. | Soph. | Seattle, Wash. |
| Redden, Cecil Vernon | Com. | Spec. | Vancouver, Wash. |
| Redfield, Francis Fitz Maurice | Mines | Fr. | Bend |
| Redford, Homer Dwight | C.E. | Soph. | Eugene |
| Redman, Jacob Arthur | C.E. | Soph. | Portland |
| Reed, Clifford Henry | E.E. | Soph. | Corbett |
| Reed, Eva Isabelle | H.Ec. | Jr. | Reedsport |
| Reed, Frederick Clarke | Agri. | Fr. | Portland |
| Reed, Laura Margery | Com. | Fr. | Reedsport |
| Reed, Robin Lawrence | E.E. | Fr. | Portland |
| Reed, Russell Oakley | E.E. | Jr. | Estacada |
| Reeder, Bertha Marie | H.Ec. | Jr. | Calistoga, Cal. |
| Reeder, Hattie E. | Com. | Fr. | Salem |
| Reeder, Zilda Luella | Com. | Spec. | Corvallis |
| Rees, Errol Clinton | Phar. | Fr. | Corvallis |
| Rees, Helen J. | H.Ec. | Sr. | Marshfield |
| Rees, William Adelbert | Com. | Fr. | Shaniko |
| Reese, Bernt Odin | M.E. | Fr. | Silvana, Wash. |
| Reetz, Alvin M. | Agri. | Fr. | Junction City |
| Rehberg, Ray C. | M.E. | Spec. | Alice |
| Rehfield, Chester Theodore | Agri. | Soph. | Portland |
| Rehn, Henry | Com. | Soph. | Ritzville, Wash. |
| Reichart, Sidney Irving | Ch.E. | Fr. | Corvallis |
| Reid, Anna Frances | H.Ec. | Jr. | Portland |
| Reider, Mary Helen | H.Ec. | Jr. | Rivera, Cal. |
| Reiman, Ervin Earl | Agri. | Sr. | St. Maries, Idaho |
| Reinhardt, Earl Clifford | Agri. | Spec. | Corvallis |
| Reish, Charles | Mines | Fr. | Orange, Cal. |
| Reitsma, Earl | Agri. | Soph. | Corvallis |
| Remmelmeier, Elizabeth | Com. | Fr. | Aberdeen, Wash. |
| Renner, G. Virginia | H.Ec. | Voc. | Corvallis |
| Renner, Kennett Arden | M.E. | Soph. | Oregon City |
| Reuter, Ernest George | E.E. | Fr. | Portland |
| Reyna, Carlos A. | Agri. | Voc. | Peru, S. A. |
| Reynolds, Chas. Emerson | For. | Spec. | Los Angeles, Cal. |
| Reynolds, Clarence Wm. | | Opt. | Corvallis |
| Reynolds, Cyril Delbert | Phar. | Fr. | Independence |
| Reynolds, June Casteel | | Opt. | Corvallis |
| Reynolds, Floyd Jay | For. | Soph. | Portland |
| Reynolds, Theodore Edward | Agri. | Soph. | Ventura, Cal. |
| Reynolds, Trevis Fenton | I.A. | Jr. | Corvallis |
| Rhea, Hugh | M.E. | Sr. | Hermiston |
| Rhoads, Chas. Howard | Ch.E. | Fr. | Corvallis |
| Rice, Berenice Lillian | Com. | Fr. | Myrtle Creek |
| Rice, George Benjamin | E.E. | Spec. | Eagle, Idaho |
| Rice, Hiram Vernon | Agri. | Fr. | Myrtle Creek |
| Rice, Jeanette | Com. | Fr. | Roseburg |
| Rice, Lory Earl | Agri. | Jr. | Eagle, Idaho |
| Rice, Philip Richard | Agri. | Soph. | Walla, Wash. |
| Rice, Vie Elizabeth | Com. | Jr. | Myrtle Creek |
| Rice, Winona Leone | Voc.Ed. | Fr. | Dallas |
| Rich, Henry Brown | Agri. | Soph. | Kennewich, Wash. |
| Rich, Herbert Eugene | Agri. | Fr. | Long Beach, Cal. |
| Rich, Hubert E. | Com. | Voc. | Corvallis |
| Rich, Vida Nell | Com. | Sr. | Seward, Alaska |
| Richards, Helen | Com. | Soph. | Rickreall |
| Richards, Lyle R. | Com. | Soph. | Orange, Cal. |
| Richardson, Adelaide | H.Ec. | Soph. | Portland |
| Richardson, Homer Jackson | Mines | Fr. | Salem |
| Richardson, John Marvin | Com. | Sr. | Portland |
| Richardson, Mary Emma | Com. | Fr. | Scappoose |
| Richardson, Paul K. | Mines | Sr. | Salem |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| Richert, Ralph James | Agri. | Jr. | Pacific Beach, Cal. |
| Richert, Roy | Agri. | Fr. | Pacific Beach, Cal. |
| Riches, Frank Adelbert | Agri. | Soph. | Silverton |
| Riches, Harry LaBare | Agri. | Jr. | Silverton |
| Rickard, Edgar | Com. | Fr. | Junction City |
| Rickard, Margaret L. | Voc.Ed. | Jr. | Corvallis |
| Rickert, Eva Louella | H.Ec. | Voc. | Corvallis |
| Ricketts, Lillian Naomi | H.Ec. | Fr. | Portland |
| Rickter, Oscar | Agri. | Spec. | Rio Dell, Cal. |
| Ridenour, Elinor | H.Ec. | Fr. | Corvallis |
| Ridings, Aliene D. | H.Ec. | Voc. | Portland |
| Ridings, Earl A. | Agri. | Voc. | Oakland, Cal. |
| Ridings, Harold Forbes | Agri. | Fr. | Molalla |
| Rigg, William Dewey | E.E. | Jr. | Cheney, Wash. |
| Riggins, Philip Byron | Com. | Soph. | Los Angeles, Cal. |
| Riggs, Leib L. | Phar. | Sr. | Salem |
| Riggs, Velma Hortense | H.Ec. | Fr. | Summerville |
| Riley, James Ross | C.E. | Fr. | Spreckles, Cal. |
| Rinearson, Leonard Everett | C.E. | Jr. | Milwaukie |
| Rinnell, Arthur Alti | E.E. | Fr. | Astoria |
| Rippey, Thresher Ames | Agri. | Soph. | Los Angeles, Cal. |
| Rising, Louis Wait | Mines | Jr. | Irrigon |
| Risley, Ralph Winston | Com. | Soph. | Malwaukie |
| Rissberger, John M. | E.E. | Soph. | Oregon City |
| Ritchie, Horace Bradford | Phar. | Jr. | Portland |
| Ritner, Ford Conklin | E.E. | Soph. | Corvallis |
| Ritter, Herman Mathias | Agri. | Jr. | Pasadena, Cal. |
| Roadman, George P. | Agri. | Voc. | Weiser, Idaho |
| Robb, Helen Josephine | H.Ec. | Fr. | Hoquiam, Wash. |
| Robbins, Duane Hardie | Com. | Jr. | Molalla |
| Robbins, Walter Guy | M.E. | Soph. | Philomath |
| Roberts, Emory Douglas | C.E. | Sr. | Gresham |
| Roberts, George Arthur | Agri. | Voc. | Marathon, Iowa |
| Roberts, Harry Kay | Mines | Fr. | Hood River |
| Roberts, Homer Lee | Com. | Jr. | Corvallis |
| Roberts, Irving Clifford | E.E. | Sr. | Salem |
| Roberts, Lee Jennings | Agri. | Soph. | Corvallis |
| Roberts, Rolla R. | Com. | Spec. | Corvallis |
| Roberts, Roscoe Daniel | Agri. | Spec. | The Dalles |
| Robertson, Alfred C. | Ch.E. | Sr. | Portland |
| Robertson, Irwin Justus | E.E. | Jr. | Turner |
| Robertson, Silas | C.E. | Fr. | Gooding, Idaho |
| Robinson, Arthur Ralph | C.E. | Soph. | Portland |
| Robinson, Edwin Emerson | M.E. | Soph. | Wilderville |
| Robinson, Mrs. Elizabeth | Com. | Spec. | Corvallis |
| Robinson, Elizabeth Noll | Com. | Fr. | Portland |
| Robinson, Everett Edward | Agri. | Voc. | Grants Pass |
| Robinson, George J. | Com. | Voc. | Halfway |
| Robinson, Jennings Bryan | Agri. | Voc. | Corvallis |
| Robinson, Paul Evans | I.A. | Jr. | Mapleton |
| Robinson, Richard Wesley | M.E. | Soph. | Wilderville |
| Robinson, Temple Moss | For. | Soph. | Corvallis |
| Robinson, Mrs. T. M. | | Opt. | Corvallis |
| Robison, Clifton Francis | Agri. | Spec. | Portland |
| Robnett, Elmo Eugene | C.E. | Fr. | Albany |
| Robson, Ella Dunlap | H.Ec. | Jr. | Corvallis |
| Rock, Charles | Com. | Fr. | Weiser, Idaho |
| Rodgers, Dick | M.E. | Sr. | Bandon |
| Rodgers, Ethel Fern | H.Ec. | Jr. | Woodburn |
| Rodolf, Helen Hope | Voc.Ed. | Soph. | Corvallis |
| Roe, Harvey Dane | C.E. | Fr. | Junction City |
| Roe, Marjorie | Com. | Fr. | Junction City |
| Roether, Charles James | Com. | Fr. | San Diego, Cal. |
| Rogers, Basil Isaiah | Phar. | Soph. | Star, Idaho |
| Rogers, Beulah Georgiana | Com. | Soph. | Tillamook |
| Rogers, David | Agri. | Soph. | Phoenix, Ariz. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|---------------------|
| Rogers, Elizabeth Catherine | Opt. | | Bow, Wash. |
| Rogers, Fay Albert | Agri. | Voc. | Twin Falls, Idaho |
| Rogers, Lavina | Com. | Sr. | Portland |
| Rogers, Max Franklin | Com. | Jr. | Portland |
| Rogers, Mildred M. | H.Ec. | Fr. | Pendleton |
| Roley, Gladys Evelyn | H.Ec. | Spec. | Portland |
| Rollins, Charles Arthur | E.E. | Fr. | Hillsboro |
| Rollman, Lawrence Thomas | E.E. | Soph. | Olympia, Wash. |
| Romig, Orlando Elliott | Ch.E. | Sr. | Sheridan |
| Rondeau, Hope Eliza | Com. | Fr. | Corvallis |
| Rooney, Theresa Anne | Com. | Fr. | Portland |
| Rorick, Estell Horton | Com. | Fr. | The Dalles |
| Rorick, Roland M. | Com. | Voc. | Corvallis |
| Rose, Cecil Corbett | Ch.E. | Fr. | Payette, Idaho |
| Rose, Frank Douglas | Agri. | Fr. | Klamath Falls |
| Rose, Merrill D. | Com. | Spec. | Hudson Falls, N.Y. |
| Rosebraugh, Frank Walton | Com. | Fr. | Pasadena, Cla. |
| Rosekrans, John Hugh | Agri. | Jr. | Portland |
| Rosenberger, Jack Da Costa | Com. | Jr. | Salem |
| Rosenboom, Gus Henry | M.E. | Jr. | Oregon City |
| Rosenlof, Pearl Crystal | H.Ec. | Sr. | Nampa, Idaho |
| Rosenquest, Vera N. | H.Ec. | Sr. | Salem |
| Rosentiel, James Richard | Mines | Soph. | Canada |
| Rosenthal, Lionel Harold | C.E. | Jr. | Portland |
| Roser, Edgar Noell | E.E. | Sr. | Roseburg |
| Ross, Arthur H. | Agri. | Jr. | Salem |
| Ross, Frank Arthur | C.E. | Soph. | Wheeler |
| Ross, Ladner Valentine | E.E. | Fr. | Portland |
| Ross, Reginald Leith | Com. | Spec. | Portland |
| Ross, Robert B. | M.E. | Jr. | Mosier |
| Rosser, Earle | For. | Spec. | Corvallis |
| Rossman, Frank Emil | Agri. | Soph. | Salinas, Cal. |
| Rostel, Bert Charles | Com. | Fr. | Central Point |
| Roth, Hilda | H.Ec. | Fr. | Corvallis |
| Rothschild, Mildred Elsie | Phar. | Jr. | Portland |
| Rotschy, Samuel | For. | Soph. | Vancouver, Wash. |
| Rounds, Wallace Thornton | I.A. | Spec. | Corvallis |
| Rounsefell, George Armytage | For. | Fr. | Corvallis |
| Rounsefell, Lillian Louise | H.Ec. | Spec. | Corvallis |
| Rouse, Delbert Lawrence | Agri. | Voc. | Corvallis |
| Routledge, George Hollister | Mines | Sr. | Portland |
| Rowland, Sarah Lucile | H.Ec. | Jr. | Rickreall |
| Rawley, Harold Armond | Com. | Fr. | Portland |
| Royal, Dorothy Clark | Voc.Ed. | Fr. | Redmond |
| Rubinstein, Boris | For. | Soph. | Russia |
| Ruble, Joe | Com. | Soph. | Amity |
| Ruby, Betty | Com. | Jr. | McMinnville |
| Ruch, Lawrence Edwin | I.A. | Soph. | Applegate |
| Ruley, D. S. | Agri. | Soph. | Mt. Vernon, Wash. |
| Rush, Eldon A. | Agri. | Soph. | Elgin |
| Rush, Marion Lucile | Com. | Fr. | Portland |
| Rush, Roy Cecil | Agri. | Jr. | Tulare, Cal. |
| Rusher, Glenn Odell | I.A. | Jr. | Gresham |
| Russell, Charles Joseph | Agri. | Sr. | Corvallis |
| Russell, Earl Everett | E.E. | Jr. | Ranier |
| Russell, Gladys Leonore | H.Ec. | Fr. | Washougal, Wash. |
| Russell, Harry Radford | Agri. | Fr. | Washougal, Wash. |
| Russell, Leal Henderson | Com. | Jr. | La Grande |
| Ruth, Percy Vere | Agri. | Voc. | Corvallis |
| Rutherford, Gerald Alan | Com. | Jr. | Junction City |
| Ryan, Edward Lawrence | Com. | Soph. | Portland |
| Ryan, Louise Marion | H.Ec. | Fr. | Orange, Cal. |
| Rydberg, Iver Louis | Agri. | Soph. | San Diego, Cal. |
| Rydell, Ethel E. | Com. | Jr. | Willamina |
| Rydell, Walter | Com. | Voc. | Elkton |
| Ryder, Agnes Jane | Opt. | | Eugene |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| Ryder, Florence E. | H.Ec. | Sr. | Albany |
| Sabin, Marion | H.Ec. | Jr. | Grants Pass |
| Sadler, Stafford Carr | Agri. | Fr. | Sierra Madre, Cal. |
| Sales, Dorothy | H.Ec. | Jr. | Petaluma, Cal. |
| Saling, Lloyd B. | Com. | Fr. | Estacada |
| Sallsbury, Arthur Cole | Ch.E. | Soph. | Turner |
| Salstrom, Edward John | Ch.E. | Jr. | Portland |
| Salstrom, Joseph William | Com. | Jr. | Portland |
| Samdani, Sheikh Khurshaid | C.E. | Soph. | India |
| Samon, Judell Michael | For. | Spec. | Etna Mills, Cal. |
| Sample, Clair R. | Agri. | Spec. | Hillsboro |
| Samuelson, Olga Alfreda | Com. | Jr. | Oregon City |
| Sanborn, Carl Stanley | Agri. | Fr. | Pasadena, Cal. |
| Sanborn, Olive May | H.Ec. | Sr. | Los Angeles, Cal. |
| Sanborne, Paul Baker | Agri. | Jr. | Corvallis |
| Sand, J. K. | Phar. | Spec. | Perth Amboy, N. J. |
| Sanders, C. M. | C.E. | Jr. | Portland |
| Sanders, Harl J. | Agri. | Voc. | Bend |
| Sanders, Hazel | H.Ec. | Jr. | Athens |
| Sandon, Grace Rea | Com. | Sr. | Corvallis |
| Sandon, Marcella Hope | H.Ec. | Fr. | Corvallis |
| Sandry, Gladys Clem | H.Ec. | Fr. | Rogue River |
| Sandwich, Ethel Marion | H.Ec. | Fr. | Whiteson |
| Sanford, Donald Joseph | Com. | Fr. | Montesano, Wash. |
| Sarkaria, Ram Singh | Agri. | Jr. | India |
| Saunders, John William | E.E. | Fr. | Pendleton |
| Saunders, Lawrence Henry | Agri. | Soph. | El Cajon, Cal. |
| Saunders, William Wilford | E.E. | Jr. | The Dalles |
| Saurer, Matilda Kathryn | H.Ec. | Fr. | Portland |
| Sawyer, Maurice Fred | Agri. | Jr. | Whittier, Cal. |
| Sax, Theodore | Com. | Voc. | Portland |
| Saxe, Merle Kenneth | M.E. | Fr. | Corvallis |
| Schaad, Rudolph August | Agri. | Spec. | Newberg |
| Schad, Geary Loyd | Phar. | Soph. | Elkton |
| Schad, Leonard Jr. | M.A. | Voc. | Portland |
| Schaefer, George Stephen | Agri. | Voc. | Tracy, Cal. |
| Scharff, Cedric Emil | Agri. | Fr. | John Day |
| Scharff, John C. | Agri. | Fr. | John Day |
| Scharpf, Alma Ethelyn | H.Ec. | Sr. | Portland |
| Schei, Wallace Aubrey | Com. | Soph. | Salem |
| Schellinger, Stella Lucile | H.Ec. | Fr. | Sparta, Ill. |
| Scherer, Walter Hirschell | C.E. | Soph. | Corvallis |
| Schifferer, John William | Agri. | Voc. | Turner |
| Schille, Anthony George | M.E. | Sr. | Portland |
| Schlegel, Joseph Theodore | Mil. | Fr. | Corvallis |
| Schlegel, Ralph Henry | Com. | Fr. | Portland |
| Schlehuber, John | Agri. | Voc. | Corvallis |
| Schmidt, George Emile | Ch.E. | Soph. | Portland |
| Schmidt, Reinhold | M.E. | Sr. | Grants Pass |
| Schneider, Louise Alberta | H.Ec. | Spec. | Corvallis |
| Schneider, Nicholas | Com. | Sr. | Portland |
| Schneider, Caroline Bertha | Com. | Soph. | Pendleton |
| Schoenfeldt, Arthur Morris | Com. | Soph. | Portland |
| Schroeder, Wm. W. | Com. | Soph. | Portland |
| Schrunk, Percy Wendall | Phar. | Fr. | Brownsville |
| Schultz, Eva Marie | Com. | Soph. | Portland |
| Schulz, George Richard | M.E. | Fr. | Portland |
| Schumacher, Benjamin F. | Com. | Sr. | Portland |
| Schumacher, Bertha Lydia | H.Ec. | Fr. | Portland |
| Schumacher, Winnie Lillian | Com. | Spec. | Heisson, Wash. |
| Schureman, Earl | Agri. | Voc. | Corvallis |
| Schuster, Carl Ephriam | | Opt. | Portland |
| Schuttpelz, Adolph | Phar. | Jr. | Lakeside |
| Schuttpelz, Dora Marie | H.Ec. | Voc. | Corvallis |
| Schwartz, Esther Dresden | | Opt. | Corvallis |
| Scollard, Cecil J. | Agri. | Jr. | Woodburn |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-------------------------------------|-------------------|-------------|----------------------|
| Scott, Genio | For. | Fr. | Camas, Wash. |
| Scott, Harold | Agri. | Soph. | Los Angeles, Cal. |
| Scott, Herman Harvey | Agri. | Voc. | Corvallis |
| Scott, James Otis | Agri. | Soph. | Independence |
| Scott, Jennie Ritchie | H.Ec. | Spec. | Corvallis |
| Scott, Mary Ritchie | Agri. | Soph. | Corvallis |
| Scott, Millard L. | Agri. | Jr. | Whittier, Cal. |
| Scoville, Buell | Phar. | Spec. | Pioneer |
| Scroggin, La Verne | Voc.Ed. | Jr. | Portland |
| Seaman, Robert Turner | Com. | Fr. | Molalla |
| Searcy, John L. | Agri. | Jr. | Moro |
| Searcy, Seral Ward | Com. | Jr. | Moro |
| Seaver, Ranold Marlin | E.E. | Fr. | Eugene |
| Seccombe, Lyle William | C.E. | Soph. | San Bernardino, Cal. |
| Sedgwick, George Bearby | E.E. | Jr. | Creswell |
| Sedgwick, William Dunn | E.E. | Jr. | Creswell |
| Seibert, William Henry | Agri. | Voc. | Pendleton |
| Seidl, Albert Carl | Com. | Sr. | Troutdale |
| Seim, Roy Martin | Agri. | Jr. | Astoria |
| Selland, Orrin I. | Agri. | Voc. | Manzanita, Wash. |
| Selover, Howard Pierce | Agri. | Soph. | Los Angeles, Cal. |
| Selstrom, Ivan Frank | M.E. | Soph. | Stockett, Mont. |
| Senders, Albert Lester | Com. | Voc. | Albany |
| Settlemeier, Minnie Elizabeth | Com. | Jr. | Woodburn |
| Severns, Edgar E. | Com. | Soph. | Fontana, Cal. |
| Severns, Walter Edward | E.E. | Soph. | Fontana, Cal. |
| Sewell, Norris Cader | E.E. | Soph. | Portland |
| Seykora, Annie Marie | H.Ec. | Jr. | Pueblo, Col. |
| Seymour, Elizabeth | H.Ec. | Sr. | Forest Grove |
| Shade, Enos Burke | Agri. | Sr. | Rivera, Cal. |
| Shafer, Mark Hanna | Phar. | Fr. | Payette, Idaho |
| Shainholts, Den Holmes | Com. | Fr. | Hoquiam, Wash. |
| Shamhart, Letitia Mae | Phar. | Fr. | Merrill |
| Shanks, J. Carlton | E.E. | Jr. | Dallas |
| Shannon, Walter Franklin | Com. | Fr. | Condon |
| Sharkey, Clement John | Ch.E. | Sr. | Portland |
| Sharp, James Sim | Agri. | Voc. | Corvallis |
| Shaver, Alfred H. | Agri. | Fr. | Molalla |
| Shaver, Merryl Clark | | Opt. | Sutherlin |
| Shaw, Charles Garfield | Voc.Ed. | Spec. | Shedd |
| Shaw, James Bart | Mines | Jr. | Ft. Worth, Texas |
| Shaw, James Leslie | Phar. | Fr. | Hailey, Idaho |
| Shawe, Hamilton Bruce | Agri. | Jr. | Corvallis |
| Sheaffer, Clifford Lionel | M.E. | Soph. | Grants Pass |
| Shedd, Frank Raymond | Com. | Soph. | Shedd |
| Sheldon, Harold Henrion | M.E. | Fr. | Portland |
| Sheldon, Howard Berwick | Agri. | Soph. | Santa Paula, Cal. |
| Shelton, Alva B. | Com. | Spec. | Coquille |
| Shelton, Frank Emerson | Com. | Fr. | Corvallis |
| Shelton, Henry E. | Com. | Jr. | Pomeroy, Wash. |
| Shelton, Rose Irene | Com. | Soph. | Goldendale, Wash. |
| Shetlus, Gladys Whittington | H.Ec. | Fr. | Portland |
| Shepard, Volney William | | Opt. | Rosalia, Wash. |
| Sherfy, Claud | M.A. | Voc. | Corvallis |
| Sherfy, Harold Everett | Agri. | Sr. | Corvallis |
| Sherfy, Vesta Elizabeth | H.Ec. | Sr. | Corvallis |
| Sherwin, Howard Thickstun | C.E. | Soph. | Willamina |
| Sherwood, Andrew Willam | Agri. | Fr. | Portland |
| Sherwood, Curtis Homer | Agri. | Sr. | Los Angeles, Cal. |
| Shield, Margaret Phoebe | Com. | Spec. | Portland |
| Shields, Duncan | Com. | Fr. | Portland |
| Shinkwin, Charles Patrick | Agri. | Fr. | Los Angeles, Cal. |
| Shinn, George Oliver | Agri. | Voc. | Portland |
| Shipe, Alex Carlton | M.E. | Soph. | The Dalles |
| Shirley, Florence Harriet | Com. | Spec. | Salem |
| Shirley, Lola Marie | H.Ec. | Fr. | Portland |

| Name | Curriculum | Rank | Home Address |
|---------------------------|------------|-------|----------------------|
| Shirley, Marguerite D. | Com. | Sr. | Weiser, Idaho |
| Shome, Sumil Prohart | Agri. | Voc. | India |
| Shonnesan, Gordon Oliver | Phar. | Soph. | Woodburn |
| Shorett, John Burton | Agri. | Fr. | Seattle, Wash. |
| Short, Grace Laverne | H.Ec. | Soph. | San Jose, Cal. |
| Short, James Franklin | Agri. | Fr. | Tumalo |
| Shotwell, Jesse Gordon | C.E. | Jr. | Hermiston |
| Shrauger, Clyde Frank | Agri. | Soph. | Mt. Vernon, Wash. |
| Shriber, Albert Lowell | E.E. | Soph. | Philomath |
| Shriber, William Howard | E.E. | Soph. | Philomath |
| Shrock, Marvin Lorenzo | Com. | Fr. | Milwaukie |
| Shroyer, Roxana | H.E. | Jr. | Portland |
| Shumaker, Gladys Elnora | Com. | Soph. | McMinnville |
| Siegmund, Floyd LaVern | M.E. | Sr. | Salem |
| Siewert, Daniel Robert | E.E. | Soph. | Salem |
| Sigfrit, Freda Aileen | Ch.E. | Soph. | Mitchell |
| Sigle, Charles Marshal | M.E. | Jr. | Portland |
| Sikes, Cyril Pierce | Com. | Jr. | Corvallis |
| Sikes, Vera | Com. | Fr. | Corvallis |
| Silva, Alvin Kalaniku | Agri. | Jr. | Hawaii |
| Silver, Annie Amanda | Com. | Soph. | Astoria |
| Simington, Robert Merrill | Ch.E. | Soph. | Portland |
| Simmons, William Marvil | Agri. | Fr. | San Diego, Cal. |
| Simms, Roland Epes | Agri. | Fr. | Corvallis |
| Simon, Floyd Halem | Agri. | Soph. | Albany |
| Simonsen, Ellen | | Opt. | Gresham |
| Simonson, Simon A. | Agri. | Voc. | Brothers |
| Simonton, James William | Agri. | Voc. | Deer Park, Wash. |
| Simpson, Clarence Everett | M.E. | Soph. | Portland |
| Simpson, Clyde Leroy | Com. | Fr. | Gardena, Cal. |
| Simpson, John Marshall | Agri. | Fr. | Cornelius |
| Simpson, Kirk | C.E. | Soph. | Salem |
| Simpson, Samuel Douglas | | Opt. | Corvallis |
| Simpson, Willard Dewey | C.E. | Jr. | Salem |
| Sims, Alva Edward | I.A. | Fr. | Woodburn |
| Sims, Lee Thomas | I.A. | Jr. | Woodburn |
| Sims, Lona | H.Ec. | Sr. | Corvallis |
| Sinclair, John A. | For. | Spec. | Wilbur |
| Sines, Harry | Ch.E. | Fr. | Portland |
| Singh, Mohan | Com. | Jr. | India |
| Sink, Leota | H.Ec. | Soph. | Portland |
| Skells, George William | E.E. | Soph. | Portland |
| Skelton, Joe Taft | C.E. | Sr. | Corvallis |
| Skillin, Alem Hollister | C.E. | Fr. | Portland |
| Skyles, Norman Baker | E.E. | Soph. | Astoria |
| Slate, Daisy | H.Ec. | Jr. | Albany |
| Slate, Mack | C.E. | Spec. | Albany |
| Slater, Francis Robert | E.E. | Fr. | Union |
| Slater, Richard Dudley | C.E. | Sr. | Salem |
| Slater, Richard Thomas | Com. | Soph. | Sutherlin |
| Slavens, Mabelle Grace | Phar. | Fr. | Hood River |
| Slavens, Ray Arthur | Com. | Fr. | Hood River |
| Sliff, Arthur Leon | For. | Soph. | Silverton |
| Slinger, Robert Newton | E.E. | Fr. | Portland |
| Sloan, Marvin A. | Com. | Fr. | San Bernardino, Cal. |
| Slocum, Walter Gail | M.E. | Fr. | Corvallis |
| Slottee, Ruth Ragnhild | Com. | Fr. | Astoria |
| Small, Ross Monroe | Agri. | Fr. | Summer Lake |
| Smart, Granville Ira | Mines | Jr. | Corvallis |
| Smith, Arthur Bernard | Agri. | Spec. | Aurora |
| Smith, Benjamin F. | For. | Spec. | Tygh Valley |
| Smith, Calvin Reed | Com. | Sr. | Bend |
| Smith, E. Pearl | H.Ec. | Opt. | Independence |
| Smith, Earl Wallace | E.E. | Soph. | Halfway |
| Smith, Emil James | Agri. | Fr. | Albany |
| Smith, Emmett | M.A. | Voc. | Perry |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------------|-------------------|-------------|---------------------|
| Smith, Eric Rounthwaite | E.E. | Jr. | Portland |
| Smith, Ethel Alda | H.Ec. | Fr. | South Bend, Wash. |
| Smith, Hazel S. | Agri. | Jr. | Lewiston, Mont. |
| Smith, Fred Leland | Agri. | Soph. | Etna Mills, Cal. |
| Smith, George A. | Agri. | Voc. | Corvallis |
| Smith, George Dewey | M.E. | Soph. | Corvallis |
| Smith, Mrs. Gladys Evadna | Agri. | Sr. | Seattle |
| Smith, Hazel Dean | Com. | Fr. | Portland |
| Smith, Hazel June | H.Ec. | Jr. | Lewiston, Mont. |
| Smith, Helen | H.Ec. | Jr. | Pocatello, Idaho |
| Smith, Horace Arthur | Com. | Voc. | Corvallis |
| Smith, Hortense Agatha | H.Ec. | Soph. | Rock Island, Ill. |
| Smith, Mrs. Hutoka Miller | H.Ec. | Sr. | Corvallis |
| Smith, Lawrence H. | For. | Sr. | McMinnville |
| Smith, Leslie Leeper | E.E. | Sr. | Corvallis |
| Smith, Lewis | E.E. | Jr. | Corvallis |
| Smith, Luke D. | Phar. | Fr. | Woodburn |
| Smith, Malcolm Gaugh | Ch.E. | Soph. | Salem |
| Smith, Otto Theodore | C.E. | Spec. | Portland |
| Smith, Paul Francis | E.E. | Fr. | Elgin |
| Smith, Sarah Avis | Com. | Jr. | Rainier |
| Smith, Stanley Lewis | Agri. | Fr. | Gooding, Idaho |
| Smith, Sterling William | M.E. | Sr. | Portland |
| Smith, Thos. Hillis | Com. | Sr. | Pomona, Cal. |
| Smith, Veva Albzerta | H.Ec. | Jr. | Salem |
| Smith, Virginia Middleton | H.Ec. | Sr. | Medford |
| Smith, Walter Thomas | Com. | Jr. | Aurora |
| Smith, Wilma Alice | H.Ec. | Fr. | Kerby |
| Smith, Wilmon F. | Agri. | Fr. | McMinnville |
| Smithers, Eric Francis | Agri. | Spec. | Maplewood, N. J. |
| Smithley, Vernon Bernard | Com. | Spec. | Sheridan |
| Smoke, William Robert | M.A. | Voc. | Portland |
| Snell, Eldon, Alfred | Phar. | Fr. | Albany |
| Snell, Leva J. | H.Ec. | Soph. | Albany |
| Snider, Delber Thomas | E.E. | Fr. | La Grande |
| Snidow, Harriet Vivian | Phar. | Jr. | Willamette |
| Snodgrass, James Harry | Com. | Fr. | La Grande |
| Snook, Maurice C. | Com. | Sr. | Madras |
| Snyder, Chas. Edward | M.E. | Fr. | Chino, Cal. |
| Snyder, Elizabeth | Phar. | Soph. | Corvallis |
| Snyder, Helen Maxine | Com. | Jr. | Corvallis |
| Snyder, Walter Edward | Com. | Fr. | Corvallis |
| Soden, Harold Edward | Agri. | Jr. | Corvallis |
| Soden, Hazel Ellsmere | Com. | Soph. | Corvallis |
| Soderstrom, Clarence R. | I.A. | Sr. | Albany |
| Solverster, Rolla Andrew | For. | Spec. | Mikkalo |
| Sommerecamp, Mary Elizabeth | Com. | Fr. | Weiser, Idaho |
| Sommerecamp, Ruth Eleanor | Com. | Fr. | Weiser, Idaho |
| Son, Mae | Com. | Voc. | Corvallis |
| Sorber, David Wayne | Agri. | Voc. | Corvallis |
| Spangenberg, Edith May | Com. | Fr. | Lakeview |
| Spath, Harry E. | M.A. | Voc. | Seaside |
| Spaulding, Ila Loleta | H.E. | Sr. | Salem |
| Spaur, George | For. | Fr. | Roseburg |
| Spencer, Dean | Com. | Soph. | Prairie City |
| Spencer, George Fenton | Agri. | Soph. | Portland |
| Spencer, Gerald E. | Phar. | Fr. | Union |
| Spight, Lindsey Hill | Agri. | Soph. | Hood River |
| Spriggs, Genevieve | H.E. | Jr. | Nampa, Idaho |
| Squier, Mrs. | Com. | Spec. | Corvallis |
| Squier, Elizabeth Louise | H.E. | Soph. | Oregon City |
| Squires, Eugene | C.E. | Fr. | Portland |
| Squires, Eugenia | Com. | Fr. | Portland |
| Squires, Theodore A. | Agri. | Jr. | Madison, Ohio |
| Staley, Minnie | H.E. | Soph. | Portland |
| Stalker, Ray Leslie | Com. | Fr. | Portland |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|------------------------------|-------------------|-------------|---------------------|
| Stamm, Robert Andrew | E.E. | Sr. | Eugene |
| Stannard, Frank M. | I.A. | Soph. | Corvallis |
| Stansell, Nicholas Richmond | Phar. | Jr. | Eugene |
| Starbuck, Clarence Vergil | Phar. | Fr. | Portland |
| Stark, Harrison Harper | Agri. | Spec. | Wenatchee, Wash. |
| Starker, Caroline Marguerite | H.Ec. | Sr. | Portland |
| Starkey, Edward B. | Agri. | Sr. | Prosser, Wash. |
| Starr, Eugene Carl | E.E. | Jr. | Falls City |
| Starr, Glenn William | Agri. | Voc. | Corvallis |
| Starr, Peter Marion | Agri. | Voc. | Corvallis |
| Starz, Elvira Rosalie | H.E. | Jr. | Helena, Mont. |
| Stearns, Arvilla Marae | H.E. | Soph. | Lebanon |
| Stearns, Dave W. | C.E. | Spec. | Portland |
| Stearns, Howard Cecil | Agri. | Soph. | Portland |
| Stearns, Max | Agri. | Soph. | Portland |
| Stearns, Russell Millard | Com. | Soph. | Lebanon |
| Stebbins, Roderick Ellery | Agri. | Jr. | Berkeley, Cal. |
| Steele, Joseph Irvine | For. | Sr. | Portland |
| Steele, Carlos Elmer | M.E. | Fr. | Corvallis |
| Steele, Clarence Wm. | M.E. | Jr. | Corvallis |
| Steele, Zella Dorothy | H.Ec. | Jr. | Creswell |
| Stein, Ruth Gertrude | Com. | Soph. | Asotire, Wash. |
| Stein, Wm. Frank | E.E. | Soph. | Portland |
| Steinkamp, Tony Joseph | Agri. | Voc. | Aumsville |
| Stenback, Raymond Howard | Com. | Sr. | Summit |
| Stenstrom, Lloyd Clifford | Mines | Jr. | Salem |
| Stenstrom, Louise Marie | Phar. | Fr. | Salem |
| Stephens, A. Eileen | H.Ec. | Jr. | Portland |
| Stephens, Robert Nason | Agri. | Voc. | Ft. Collins, Colo. |
| Stephenson, Carl Eugene | C.E. | Fr. | Portland |
| Stephenson, Ruth Charlotte | H.Ec. | Fr. | Portland |
| Stevens, Allan | Agri. | Voc. | Spokane, Wash. |
| Stevens, Edwin Charles | Agri. | Voc. | Yachats |
| Stevenson, Herbert William | For. | Jr. | Portland |
| Stewart, Blair | Com. | Fr. | Corvallis |
| Stewart, Chas. Warren | Agri. | Voc. | Corvallis |
| Stewart, Dora Belle | Com. | Jr. | Albany |
| Stewart, Earl William | Agri. | Soph. | Los Angeles, Cal. |
| Stewart, Edward James | Agri. | Voc. | British Columbia |
| Stewart, John Quincy | Agri. | Jr. | Enon Valley, Pa. |
| Stewart, Lois Alene | Com. | Fr. | Prineville |
| Stewart, Raymond Ernest | M.E. | Jr. | Carlton |
| Stewart, Robert Alex | Agri. | Sr. | Portland |
| Stewart, Robert Shortridge | Com. | Fr. | Portland |
| Stewart, Rollen F. | Com. | Soph. | Carlton |
| Stewart, Rudolph Jennings | E.E. | Soph. | Corvallis |
| Stiles, Janie | Com. | Opt. | St. Helens |
| Stiles, Jean | Com. | Fr. | Nampa, Idaho |
| Stilwell, Betty | Com. | Soph. | Cottage Grove |
| Stinson, Richard B. | Com. | Sr. | Portland |
| Stiyr, Howard August | Agri. | Spec. | Nampa, Idaho |
| Stockton, Joseph Lowell | Agri. | Sr. | Pendleton |
| Stockton, Mary Edith | H.Ec. | Soph. | Milwaukie |
| Stoddard, Waldo Izatt | Com. | Fr. | La Grande |
| Stogsdill, Eula Jean | Com. | Opt. | The Dalles |
| Stone, Gail Bernard | Com. | Fr. | The Dalles |
| Stone, Harold B. | E.E. | Jr. | Ashland |
| Stone, Leila Opal | Phar. | Spec. | Santa Cruz, Cal. |
| Stone, Lenore | H.Ec. | Soph. | Portland |
| Stone, Marjorie May | H.Ec. | Fr. | Junction City |
| Stone, Marshall Weddel | Agri. | Soph. | Tacoma, Wash. |
| Stone, Ruby Christenah | H.Ec. | Soph. | Corvallis |
| Stone, Weldon Wilson | M.A. | Voc. | Roseburg |
| Storgard, Andrew Eric | Mines | Jr. | Marshfield |
| Storms, Eiler | C.E. | Spec. | Portland |
| Storz, Chas. W. | Agri. | Sr. | Portland |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-------------------------------|-------------------|-------------|----------------------|
| Stout, Isabelle Vera | Com. | Jr. | Onalaska, Wash. |
| Stout, John Willard | C.E. | Spec. | Corvallis |
| Stover, Dorothy Irene | H.Ec. | Soph. | Corvallis |
| Stow, Fern Leota | H.Ec. | Jr. | McMinnville |
| Stowell, Robert Malcolm | Com. | Fr. | Portland |
| Strahan, Lolen Robert | Com. | Fr. | San Bernardino, Cal. |
| Strahl, Newton Fenton | Com. | Sr. | Centerville, Wash. |
| Straight, Dorothy Louise | H.Ec. | Fr. | Ontario, Cal. |
| Strand, John Arnold | Phar. | Jr. | Portland |
| Strang, Roy | Agri. | Fr. | College City, Cal. |
| Straughan, Theodore Roosevelt | E.E. | Soph. | Pendleton |
| Strauss, Jack Roman | I.A. | Spec. | Corvallis |
| Strauss, Mrs. Rheta Mae | H.Ec. | Spec. | Falls City |
| Street, Andrew Ervin | Agri. | Jr. | Streetwater, Tenn. |
| Streiff, David | Com. | Jr. | Portland |
| Striker, William C. | Agri. | Voc. | Kelum, N. Dak. |
| Stringham, Walter J. | Phar. | Spec. | Imbler |
| Striplin, Virgil Toliver | Agri. | Soph. | Lakeview |
| Strong, Clarence Charles | I.A. | Jr. | Washougal, Wash. |
| Strong, Lloy Lorraine | E.E. | Soph. | Corvallis |
| Strong, Walter William | Com. | Fr. | Washougal, Wash. |
| Stroud, Howard Roosevelt | Com. | Soph. | Mt. Vernon, Wash. |
| Stroud, Merland Dewey | Phar. | Spec. | Mt. Vernon, Wash. |
| Stroud, Wilbur Thomas | Com. | Voc. | Salmon, Idaho |
| Stroup, Marion George | Com. | Spec. | Hillsdale |
| Strout, Edna Ethelwyn | H.Ec. | Jr. | Amity |
| Struve, Gilbert | Com. | Fr. | Pendleton |
| Stuart, J. Merle | H.Ec. | Sr. | Portland |
| Studer, George Alfred | M.E. | Jr. | Portland |
| Subject, Felix August | M.E. | Fr. | San Bernardino, Cal. |
| Suing, Arthur William | Agri. | Fr. | Careywood, Idaho |
| Sullinger, Charles Wesley | Agri. | Voc. | Hyshan, Mont. |
| Sullivan, John Dennis | Com. | Fr. | Portland |
| Sullivan, Margaret M. | Voc.Ed. | Sr. | Portland |
| Summers, Robert Edward | M.E. | Jr. | Portland |
| Summers, Stanley R. | Com. | Sr. | Lebanon |
| Sunel, Aaron Joseph | Com. | Soph. | Hillsboro |
| Surry, Clinton B. | Com. | Voc. | Corvallis |
| Swaggerty, Dave Alexander | M.A. | Voc. | Milwaukie |
| Swaggerty, James G. | M.E. | Sr. | Milwaukie |
| Swall, Lillard Trask | I.A. | Jr. | Tulare, Cal. |
| Swan, Grant Alex | Agri. | Sr. | San Dimas, Cal. |
| Swanson, Conrad Anselm | Com. | Jr. | Stevenson, Wash. |
| Swanson, Edgar H. | Agri. | Sr. | Forest Grove |
| Swanson, Roy | Agri. | Fr. | Tacoma, Wash. |
| Swarm, Harry Joy | Com. | Jr. | Norton, Kan. |
| Swarm, Mary May | Com. | Soph. | Norton, Kan. |
| Swarthout, Donald Mynard | Agri. | Sr. | San Bernardino, Cal. |
| Swarts, Ethel Albertina | H.Ec. | Soph. | Portland |
| Swartsfager, John | Agri. | Voc. | Corvallis |
| Swatman, Elmer Lee | Phar. | Spec. | New Plymouth, Idaho |
| Sweek, Alexander Don | C.E. | Soph. | Corvallis |
| Sweek, Esther | H.Ec. | Sr. | Corvallis |
| Sweeney, Edmund James | For. | Jr. | Portland |
| Swift, Pauline Lenore | H.Ec. | Fr. | Bandon |
| Swigart, John Farman | E.E. | Spec. | Harrisburg |
| Switzer, Baynard Allen | For. | Fr. | Highland, Cal. |
| Sylvester, Albert B. | Agri. | Voc. | Lebanon |
| Taafe, Arthur George | C.E. | Spec. | Portland |
| Taft, Frances Lucille | H.Ec. | Fr. | Hoquiam, Wash. |
| Taft, Marion Alice | | Opt. | Hoquiam, Wash. |
| Taggart, Lawrence Gilbert | Com. | Soph. | Hillsboro |
| Tally, Carey Kervyn | Agri. | Soph. | North Powder |
| Tanner, Alta Merle | Voc.Ed. | Fr. | Hinsdale, Mont. |
| Tasto, Hilbert Carl | Com. | Sr. | Salem |
| Taube, Henry Herbert | Agri. | Jr. | Clare, Mich. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|----------------------|
| Taylor, Charles Everett | Agri. | Sr. | Monroe, Wash. |
| Taylor, David Ross | Agri. | Fr. | So. Pasadena, Cal. |
| Taylor, Fred H. | Agri. | Voc. | Richmond, Cal. |
| Taylor, George Benjamin | Com. | Spec. | Creswell |
| Taylor, Herbert Mathew | Com. | Sr. | Corvallis |
| Taylor, Laura R. | H.Ec. | Soph. | Portland |
| Taylor, Park Elton | C.E. | Jr. | La Grande |
| Taylor, Pearl Cyrilla | H.Ec. | Soph. | Warrenton |
| Taylor, Velma Loretta | H.Ec. | Soph. | Corvallis |
| Teale, Gladys Eloise | Com. | Fr. | Battle Ground, Wash. |
| Teale, Harold Arthur | I.A. | Soph. | Battle Ground, Wash. |
| Tebb, Fred Rutherford | Com. | Fr. | Portland |
| Tebb, Gordon Edward | Com. | Jr. | Aberdeen, Wash. |
| Techentin, Arthur Henry | Agri. | Jr. | Los Angeles, Cal. |
| Teel, Joseph | E.E. | Soph. | Salem |
| Teevin, Joseph Francis | Agri. | Spec. | Corvallis |
| Teller, Alfred S. | C.E. | Jr. | Portland |
| Teller, Harry Clarence | C.E. | Soph. | Portland |
| Temple, Lee Fern | Mines | Fr. | Pendleton |
| Templeton, Wm. Lawrence | Phar. | Soph. | Brownsville |
| Ten Brook, Nell Anne | | Opt. | Astoria |
| Terrell, Helen Gunther | | Opt. | San Antonio, Texas |
| Terrell, Irvine Silva | Com. | Fr. | Medford |
| Thacker, James Hulette | C.E. | Soph. | Corvallis |
| Thacker, Richard Thomas | Agri. | Sr. | Corvallis |
| Thayer, Sheldon Zadok | E.E. | Fr. | Toledo |
| Theiring, Robert G. | Com. | Fr. | Portland |
| Theisen, Arthur Joseph | Com. | Fr. | La Grande |
| Thews, Mrs. Clara | H.Ec. | Spec. | Corvallis |
| Thirkill, Albert E. | For. | Fr. | Portland |
| Thomas, Adrian Oris | M.E. | Fr. | Milwaukie |
| Thomas, James B. | M.E. | Jr. | Junction City |
| Thomas, John Bert | I.A. | Jr. | Junction City |
| Thomas, LeRoy Clinton | Agri. | Sr. | Philomath |
| Thomas, Mary Adele | H.Ec. | Fr. | Portland |
| Thomas, Myrtle Beatrice | Com. | Fr. | North Bend |
| Thomas, William Elmer | Agri. | Voc. | Newberg |
| Thomason, Andrew McCampbell | | Opt. | Portland |
| Thompson, Amy Ruth | Com. | Sr. | Corvallis |
| Thompson, Clara Vaughan | H.Ec. | Fr. | Nyssa |
| Thompson, Edna May | Com. | Soph. | Corvallis |
| Thompson, Emily Cornelia | H.E. | Soph. | Corvallis |
| Thompson, George Francis | Agri. | Voc. | Corvallis |
| Thompson, Gordon Dexter | Ch.E. | Soph. | Salem |
| Thompson, Leslie Paul | M.E. | Sr. | Corvallis |
| Thompson, Mildred H. | Phar. | Soph. | Falls City |
| Thompson, Nellie Mae | H.Ec. | Spec. | Portland |
| Thompson, Pauline Lucile | Voc.Ed. | Fr. | Prosser, Wash. |
| Thoms, Mary Annette | | Opt. | Portland |
| Thomson, Reginald Heber | Agri. | Spec. | Seattle, Wash. |
| Thoreson, Edward Wayne | Phar. | Fr. | Blackfoot, Idaho |
| Thoreson, Roscoe Conkling | Phar. | Soph. | Jerome, Idaho |
| Thorp, Claude Armenius | Mil. | Sr. | Thorp, Wash. |
| Thurber, Evangeline | | Opt. | Corvallis |
| Thurber, Merritt W. | Agri. | Voc. | Seattle, Wash. |
| Thurston, Fleda | H.Ec. | Fr. | Newberg |
| Thurston, Jabez William | E.E. | Jr. | Eugene |
| Tibbetts, Joe Wood | Mines | Sr. | Alameda, Cal. |
| Timberlake, Mona E. | H.Ec. | Fr. | Newberg |
| Tindera, Stephen L. | Com. | Soph. | Fresno, Cal. |
| Tindle, Wyatt | Com. | Spec. | Brownsville |
| Tinker, George Henry Jr. | Agri. | Jr. | Seattle, Wash. |
| Tipp, Emil George Phillip | Agri. | Soph. | Portland |
| Tippery, Jean | Com. | Soph. | Corvallis |
| Todd, Logan Cardwell | C.E. | Spec. | Hermiston |
| Tollbor, Albert C. | Agri. | Spec. | Seattle, Wash. |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|---------------------------------|-------------------|-------------|---------------------|
| Tollefsen, Thorfinn | Mines | Voc. | Portland |
| Tolman, John Everett | I.A. | Jr. | Portland |
| Tomlinson, Lilburn Jesse | Mil. | Fr. | Long Beach, Cal. |
| Tonkin, Samuel | Agri. | Voc. | Brownsville |
| Tonseth, Cornelius Jr. | Com. | Fr. | Portland |
| Tonseth, Marie Marguerite .. | Voc.Ed. | Soph. | Portland |
| Totten, Warren V. | Com. | Fr. | Corvallis |
| Tousey, Reginald Foster | For. | Soph. | Portland |
| Tovey, Irwin Dunbar | Agri. | Voc. | Corvallis |
| Tovey, Julia Mary Etta | H.Ec. | Fr. | Corvallis |
| Tovey, Walter Bert | Com. | Soph. | Corvallis |
| Towe, Arthur Gerhart | Com. | Fr. | Silverton |
| Towle, Edella | | Opt. | Gresham |
| Toy, Ernest William | Agri. | Jr. | Pasadena, Cal. |
| Trask, Frances | Com. | Voc. | Portland |
| Trask, Victor Myron | Phar. | Fr. | Corvallis |
| Trouton, Hazel Dell | Com. | Fr. | Portland |
| Trowbridge, Miles Laurence .. | Agri. | Soph. | Portland |
| Truedson, Hokan Nathaniel .. | Com. | Jr. | Gresham |
| Trullinger, John Paul | I.A. | Soph. | Astoria |
| Tubbesing, William Herman .. | M.E. | Sr. | Portland |
| Tubbs, Harold B. | E.E. | Soph. | Molalla |
| Tubbs, Lester S. | C.E. | Jr. | Molalla |
| Tucker, Galen B. | Com. | Soph. | Forest Grove |
| Tucker, Lawrence E. | For. | Soph. | Portland |
| Tucker, Robert Lester | E.E. | Fr. | Portland |
| Tuley, William Feagan | Ch.E. | Sr. | Corvallis |
| Tunnell, Mrs. Alice Alathée .. | Voc.Ed. | Fr. | Klamath Falls |
| Tunnell, John Wesley | I.A. | Spec. | Klamath Falls |
| Tupper, Eugene Augustus | E.E. | Soph. | Snohomish, Wash. |
| Turnaclyff, Mary Lucille | Phar. | Jr. | Seattle, Wash. |
| Turnbull, Helen Become | Com. | Fr. | Sheridan |
| Turnbull, James Henry | Com. | Fr. | Sheridan |
| Turner, Dorothy G. | Com. | Jr. | Ontario |
| Turner, Joyce B. | Com. | Jr. | Ontario |
| Turner, Lee Stanford | Agri. | Voc. | Caldwell, Idaho |
| Turner, Maxine Harvey | Com. | Fr. | Pasadena, Cal. |
| Turner, Raymond H. | Agri. | Voc. | Ione |
| Turnipseed, Theron Miles | Agri. | Voc. | Spokane, Wash. |
| Turpen, Louis Leroy | Agri. | Jr. | Corvallis |
| Tuthill, Allen Fitzerland | Agri. | Jr. | Oakland |
| Tuthill, Margaret Isabel | H.E. | Jr. | Los Angeles, Cal. |
| Tuttle, Jean | H.E. | Jr. | Summerville |
| Twidwell, Leone | Phar. | Soph. | White Salmon, Wash. |
| Tyberg, Eva Carolyn | H.Ec. | Fr. | Gearhart |
| Uhlman, Gertrude M. | H.Ec. | Fr. | Scappoose |
| Updegraff, George Gavin | Com. | Jr. | Portland |
| Urfer, Kenneth George | Mines | Soph. | Portland |
| Utter, Mrs. Ruth Plank | Com. | Sr. | Woodburn |
| Utterback, George Melville .. | Com. | Fr. | Monroe |
| Vail, Charles Walalce | E.E. | Soph. | Carlton |
| Vale, William Theodore | E.E. | Fr. | Klamath Falls |
| Van Ackere, George Henry | E.E. | Jr. | Portland |
| Vance, Jean Elizabeth | Com. | Jr. | Corvallis |
| Vance, Sara Smedley | Com. | Fr. | Corvallis |
| Vancil, Chas. H. | Agri. | Soph. | Corvallis |
| Vandecoevering, Wm. James .. | Agri. | Voc. | Forest Grove |
| Vanderpool, Cedric Roy | Com. | Fr. | Portland |
| Van Dyke, Willard Herman | Agri. | Jr. | Corona, Cal. |
| Van Fleet, Byron Lester | Com. | Voc. | Portland |
| Van Groos, Doris Alberta | H.Ec. | Jr. | Corvallis |
| Van Groos, Marjorie Alida | H.Ec. | Jr. | Corvallis |
| Van Hollebeke, Elvira | Voc.Ed. | Sr. | Walla Walla, Wash. |
| Van Hollebeke, Hortense A. | Com. | Sr. | Walla Walla, Wash. |
| Van Iorns, Runyan | Phar. | Spec. | Corvallis |
| Van Kleek, Effie Melissa | H.Ec. | Fr. | Beaverton |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|--------------------------------|-------------------|-------------|----------------------|
| Vannier, Frank | C.E. | Fr. | Hood River |
| Van Nuys, Earl Ralph | Com. | Voc. | Dallas |
| Van Syckle, Calla | H.Ec. | Jr. | Corvallis |
| Van Valin, Esther Eliza | H.E. | Soph. | El Monte, Cal. |
| Van Winkle, Gertrude | Com. | Soph. | Weston |
| Varney, Lois | H.Ec. | Sr. | Corvallis |
| Varney, Philip Leonard | Ch.E. | Jr. | Corvallis |
| Veach, Harold William | For. | Voc. | Corvallis |
| Veach, Raymond R. | Com. | Soph. | Cottage Grove |
| Veneziano, Nicholas | Agri. | Jr. | Pasadena, Cal. |
| Verma Sahal Ganga | Ch.E. | Fr. | India |
| Vermilye, Hobart P. | Com. | Soph. | Yakima, Wash. |
| Vesco, George | Phar. | Jr. | Canada |
| Vessey, Lyle William | Com. | Fr. | Montesano, Wash. |
| Vick, Bertha | Com. | Soph. | Salem |
| Vinton, Hugh C. | M.E. | Soph. | New York City, N. Y. |
| Vinyard, Harold Roth | E.E. | Jr. | Canby |
| Violett, Ruth Bailey | | Opt. | Garden Grove, Cal. |
| Volheye, Linda Marie | Com. | Fr. | Portland |
| Vollstedt, Henrietta M. | Com. | Fr. | Albany |
| Vollstedt, Otto Adolf | Agri. | Voc. | Albany |
| Von Herzen, Alexander | Agri. | Fr. | Hollywood, Cal. |
| Vosteen, Fred Henry | C.E. | Fr. | Corvallis |
| Wackrow, Arthur Anton | M.A. | Voc. | Portland |
| Waddell, James Floyd | M.A. | Voc. | Shedd |
| Waddell, Raymond Craig | Agri. | Voc. | Tacoma, Wash. |
| Wade, Joseph Carroll | Agri. | Voc. | Long Beach, Wash. |
| Wadsworth, Francis Merle | Com. | Jr. | Portland |
| Wagner, Bernhardt Rudolph | Com. | Jr. | Camp Knox, Ky. |
| Wagner, Henry John | Com. | Jr. | Portland |
| Wagner, Minnie G. | H.Ec. | Jr. | Reardan, Wash. |
| Wagner, Theresa Katherine | Com. | Fr. | Portland |
| Wagner, William Paul | E.E. | Fr. | Portland |
| Waid, Dollie Dey | H.Ec. | Sr. | Yakima, Wash. |
| Wait, Elwood L. | Com. | Jr. | San Jose, Cal. |
| Wakeman, Maurice Mahany | Com. | Sr. | Medford |
| Wakeman, Neal Mahany | Agri. | Fr. | Medford |
| Wakeman, Theodore Franklin | E.E. | Soph. | Wedderburn |
| Walch, Bess | Com. | Sr. | Portland |
| Walczak, Thomas T. | E.E. | Fr. | Boring |
| Waldo, Fordyce Lathrop | Com. | Soph. | Corvallis |
| Waldo, George Fordyce | Agri. | Sr. | Dayton |
| Walker, Arthur Valentine | C.E. | Soph. | Portland |
| Walker, Mary Dorothy | H.Ec. | Fr. | Albany |
| Walker, Eldred Pottinger | Agri. | Spec. | Portland |
| Walker, George Sutherland | For. | Soph. | Portland |
| Walker, Pierce C. | Mines | Soph. | Oregon City |
| Wall, Albert Edward | Com. | Fr. | Hillsboro |
| Wallace, Mildred M. | Com. | Soph. | Pullman, Wash. |
| Wallace, Roderick Alvin | Agri. | Soph. | Seattle, Wash. |
| Wallace, Tom G. | Ch.E. | Fr. | Portland |
| Wallach, Albert Rudolph | Agri. | Soph. | Fenton, Mo. |
| Walp, Kelly Monroe | E.E. | Spec. | Salem |
| Walters, Eugene Paul | Com. | Jr. | Hillyard, Wash. |
| Walters, Fred Cecil | M.A. | Voc. | Hood River |
| Walther, Albert August | C.E. | Sr. | Portland |
| Walton, Edward Mortimer | Agri. | Voc. | Charleston, Wash. |
| Wanless, Rupert A. | C.E. | Jr. | Newberg |
| Ward, George Henry | E.E. | Fr. | Hoquiam, Wash. |
| Ward, Mina Aray | Com. | Soph. | Portland |
| Waring, Earl Russell | C.E. | Soph. | Portland |
| Waring, Thomas Glenn | C.E. | Sr. | Portland |
| Warkentin, Henrietta Katherine | H.Ec. | Fr. | Portland |
| Warman, Ray T. | Agri. | Soph. | Wenatchee, Wash. |
| Warner, Earl Madison | C.E. | Spec. | Laurel |
| Warner, Laurance Kenneth | Com. | Fr. | Pendleton |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|---------------------------|-------------------|-------------|---------------------|
| Warren, George Edward | For. | Soph. | Steubenville, Ohio |
| Warriner, Newton Embry | C.E. | Jr. | Hermiston |
| Washburn, Harry Lee | For. | Spec. | Birkenfeld |
| Washburn, Henry Mitchell | C.E. | Fr. | Chino, Cal. |
| Watenpugh, Howard Norbert | Agri. | Jr. | Ontario, Cal. |
| Watenpugh, Lillian May | H.Ec. | Soph. | Rainier |
| Waterhouse, Edward John | Agri. | Sr. | Oakland, Cal. |
| Waterman, Elsworth Yale | Agri. | Sr. | Newberg |
| Waters, Lita Gabriella | H.Ec. | Jr. | Salem |
| Waters, William Claude | Agri. | Spec. | England |
| Watkins, Harold H. | Agri. | Sr. | Kalama, Wash. |
| Watney, Helen Catherine | H.Ec. | Soph. | Seattle, Wash. |
| Watson, Stanley Everett | E.E. | Soph. | Hillsboro |
| Watts, Worth Phillips | M.E. | Soph. | Athena |
| Waxmuth, William | Agri. | Sr. | Portland |
| Weatherford, Annette | H.Ec. | Jr. | Corvallis |
| Weatherford, James Knox | C.E. | Soph. | Corvallis |
| Weatherspoon, Gladys | Voc.Ed. | Fr. | Halfway |
| Weatherspoon, Greta | Voc.Ed. | Fr. | Halfway |
| Weaver, Don Cecil | Agri. | Soph. | Brawley, Cal. |
| Weaver, Fern Georgia | H.Ec. | Fr. | Boise, Idaho |
| Weaver, Opal | | Opt. | Imperial, Cal. |
| Webb, George Herbert | Agri. | Soph. | Los Angeles, Cal. |
| Weed, Edith Verna | Voc.Ed. | Jr. | Beaverton |
| Weeks, Amos O. | Com. | Spec. | Corvallis |
| Weiss, Zeno Francis | I.A. | Sr. | Elgin |
| Welch, Herbert Earl | E.E. | Fr. | Salem |
| Welch, Julia Orla | H.Ec. | Fr. | Corvallis |
| Welch, Wilbur Hazelton | C.E. | Sr. | Corvallis |
| Welker, Theodore | Phar. | Fr. | Cambridge, Idaho |
| Weller, Joseph Barnett | Agri. | Agri. | Mosier |
| Weller, William H. | M.E. | Sr. | Portland |
| Weller, William James Jr. | M.A. | Voc. | Portland |
| Wells, Edward Ebenezer | Com. | Fr. | Oakland, Cal. |
| Wells, Frank Harrison | Agri. | Spec. | Eugene |
| Wells, Harold Earl | Agri. | Jr. | Marcola |
| Wells, Ione | H.Ec. | Sr. | Multnomah |
| Wells, Lila Mary | Com. | Spec. | Corvallis |
| Wells, Margaret C. | Voc.Ed. | Jr. | Marcola |
| Wells, Merle M. | H.Ec. | Fr. | Portland |
| Welsch, Hoseph Mathias | Agri. | Voc. | Hungary |
| Welsh, John Burke | | Opt. | South Bend, Wash. |
| Wendland, Arthur Paul | M.E. | | Salem |
| Wenner, Adolph Nicholas | For. | Fr. | Newport |
| Wentjar, Ernest Sigfred | Ch.E. | Fr. | Astoria |
| Werth, Lillian Emma | Com. | Soph. | Portland |
| West, A. Flavius | Com. | Sr. | Portland |
| West, Bertha Margaret | Com. | Fr. | Canby |
| West, Charlotte Frances | Com. | Fr. | Canby |
| West, Hal Fredrick | M.E. | Jr. | Portland |
| Westering, Myron L. | Com. | Sr. | Portland |
| Westering, Ralph Alvin | M.E. | Jr. | Portland |
| Weston, Elwyn Kelley | Agri. | Jr. | Portland |
| Wharton, Florence Agatha | Voc.Ed. | Sr. | Roseburg |
| Wharton, Malcolm Frederic | Agri. | Sr. | Garden Grove, Cal. |
| Whealdon, Alfred James | Agri. | Soph. | Nazelle, Wash. |
| Wheeler, Sheldon C. | Com. | Jr. | Santa Ana, Cal. |
| Whillock, Henry Westerman | Com. | Fr. | Medford |
| Whipple, Gladys Louise | | Opt. | Portland |
| Whipple, Hugh Glen | M.E. | Fr. | Drain |
| Whitcomb, Chas. Raymond | E.E. | Soph. | Portland |
| Whitcomb, James Bryan | Agri. | Fr. | Sheridan |
| White, Ferris Dunton | E.E. | Fr. | Newberg |
| White, Floyd Eberly | I.A. | Spec. | Corvallis |
| White, Irle Eaton | Agri. | Sr. | Hobson, Mont. |
| White, John Edward | M.A. | Voc. | Nortons |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|----------------------------|-------------------|-------------|---------------------|
| White, Miriam E. | Com. | Fr. | Eugene |
| White, Nathan Spinker | Com. | Soph. | Portland |
| White, Pauline | Voc.Ed. | Jr. | Portland |
| White, Solon Taylor | Agri. | Spec. | Corvallis |
| White, Valdes | E.E. | Soph. | Scappoose |
| Whitehorn, Mabel Gladys | H.Ec. | Fr. | Corvallis |
| Whitehouse, Claude Wm. | Com. | Fr. | Pasadena, Cal. |
| Whitelock, Edith Elizabeth | H.Ec. | Soph. | Newport |
| Whiteside, Ibbey E. | | Opt. | Corvallis |
| Whiteside, Vida Genevieve | | Opt. | Corvallis |
| Whitney, Ruth | H.Ec. | Soph. | Corvallis |
| Whittemore, Chas. Allen | Agri. | Fr. | Corvallis |
| Whittemore, John Henry | Com. | Voc. | Corvallis |
| Whittle, William David | M.E. | Soph. | Ashland |
| Whobrey, James L. | Agri. | Voc. | Jerome, Idaho |
| Wickersham, Harold Bailey | Com. | Jr. | Alhambra, Cal. |
| Wickersham, Howard Waldo | Com. | Jr. | Los Angeles, Cal. |
| Widby, Arthur B. | Agri. | Sr. | Roseburg |
| Wienert, Julius Richard | M.A. | Voc. | Airlie |
| Wiest, Almon L. | Com. | Jr. | Portland |
| Wightman, Silas Edward | M.E. | Fr. | Portland |
| Wikberg, Martha C. | H.Ec. | Sr. | Salem |
| Wilbur, Donald Alden | Agri. | Fr. | Binghamton, N. Y. |
| Wilbur, Robert Fisher | Agri. | Jr. | Washington, D. C. |
| Wilcox, David Taft | Ch.E. | Fr. | Medford |
| Wilcox, Dora Elma | H.Ec. | Sr. | Ontario, Cal. |
| Wilcox, Joseph | Agri. | Soph. | Los Angeles, Cal. |
| Wild, Mabel Jean | Com. | Soph. | Seaside |
| Wilder, Vane Royal | E.E. | Fr. | Phoenix |
| Wilderman, Sonia Edyth | Voc.Ed. | Jr. | Portland |
| Wildman, John Adrian | Com. | Soph. | Portland |
| Wiley, Minnie Mae | Com. | Fr. | Prescott, Wash. |
| Wilhelm, Helen May | H.Ec. | Spec. | Womelsdorf, Pa. |
| Wilhelm, Roger Jesse | Mines | Jr. | The Dalles |
| Wilkinson, Edith Mae | Com. | Soph. | Portland |
| Wilkinson, John C. | Agri. | Voc. | Milwaukie |
| Willard, Jay Harold | M.A. | Voc. | Corvallis |
| Willet, Edward | Com. | Spec. | Corvallis |
| Willert, Floyd Byron | For. | Jr. | Corvallis |
| Williams, Dwight B. | Com. | Jr. | Long Beach, Cal. |
| Williams, Frank Monroe | I.A. | Spec. | Corvallis |
| Williams, George Elmer | Com. | Fr. | Corvallis |
| Williams, George Winfield | E.E. | Soph. | Portland |
| Williams, Gladys Marie | Com. | Spec. | Portland |
| Williams, Harold Leighton | Phar. | Fr. | Ferndale, Cal. |
| Williams, Harry Adrian | C.E. | Fr. | Portland |
| Williams, Ray Terry | Agri. | Jr. | Corvallis |
| Williams, Roy De Vere | Phar. | Fr. | McMinnville |
| Williams, Victor Ortho | Com. | Fr. | Dallas |
| Willing, Leo Albert | Phar. | Spec. | Stayton |
| Wilson, Carl Fredrick | C.E. | Fr. | Portland |
| Wilson, Celia | Agri. | Sr. | Corvallis |
| Wilson, Chas. Wilbur | M.E. | Soph. | Portland |
| Wilson, Don Claire | Com. | Fr. | Corvallis |
| Wilson, Edgar Errett | Agri. | Spec. | Corning, Cal. |
| Wilson, Ephriam | M.A. | Voc. | Olex |
| Wilson, George Robert | I.A. | Spec. | Mosier |
| Wilson, Harold Thomas | Agri. | Jr. | Palmdale, Cal. |
| Wilson, Herbert Albion | M.E. | Jr. | Astoria |
| Wilson, Homer C. | Agri. | Voc. | La Grande |
| Wilson, Katherine Jean | Voc.Ed. | Fr. | Oswego |
| Wilson, Max Edmund | Com. | Soph. | St. Helens |
| Wilson, Myrtle Jessie | H.Ec. | Spec. | Corvallis |
| Wilson, Mrs. Ruth M. | Agri. | Soph. | Boring |
| Wilson, Virginia Elizabeth | H.Ec. | Fr. | Boise, Idaho |
| Wilson, Wendell Charles | Com. | Soph. | McMinnville |

| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|-----------------------------|-------------------|-------------|---------------------|
| Wilson, Wm. Francis | Agri. | Fr. | Wilkeson, Wash. |
| Wimer, Fred Arnold | Com. | Soph. | Coquille |
| Winger, Arthur H. | Agri. | Voc. | Spokane, Wash. |
| Winger, Sarah | Voc.Ed. | Jr. | Los Angeles, Cal. |
| Winn, Gheratine | H.Ec. | Soph. | Long Beach, Cal. |
| Winn, Hilliard Curtis | E.E. | Fr. | Corvallis |
| Winne, Charles Burton | M.E. | Soph. | Ashland |
| Winslow, Benjamin J. | Phar. | Soph. | Alhambra, Cal. |
| Winslow, Marion Jahugh | E.E. | Jr. | Dufur |
| Winston, Mabel Whittenberg | Com. | Fr. | Corvallis |
| Winters, Fred Lyle | For. | Fr. | Gresham |
| Winters, Harold Kenneth | Phar. | Fr. | Puyallup, Wash. |
| Winters, William Reynolds | Com. | Soph. | Elgin |
| Winther, Harry | Com. | Voc. | Eugene |
| Wiseman, Laura Lane | Agri. | Voc. | Seattle, Wash. |
| Wisker, Aubrey Nelson | Agri. | Soph. | Grass Valley, Cal. |
| Wiswall, Mercedes | H.Ec. | Soph. | Portland |
| Wiswall, Nelson William | Com. | Voc. | Portland |
| Witherbee, Alfred Columbus | M.E. | Fr. | Camas, Wash. |
| Witt, Eric William | Agri. | Sr. | Portland |
| Witt, Roy | Agri. | Voc. | Corvallis |
| Wohler, Victor Joseph | M.E. | Sr. | Hillsboro |
| Wohlheter, Helen | H.Ec. | Soph. | Woodburn |
| Wolf, Wilbur Stanley | Com. | Soph. | Albany |
| Wolfe, Glenn Alfred | I.A. | Soph. | Corvallis |
| Wolfe, Harry McKinley | For. | Soph. | Brownsville |
| Wolfken, Dorothea Marie | | Opt. | Corvallis |
| Wolverton, Byron William | Com. | Fr. | Portland |
| Wong, Sam Herbert | E.E. | Jr. | Portland |
| Woo, James K. | Agri. | Soph. | Portland |
| Wood, Alice Mary | Com. | Soph. | Salem |
| Wood, Benjamin D. | Phar. | Spec. | Baker |
| Wood, Carl Van T. | M.A. | Voc. | Corvallis |
| Wood, Clarence Lyon | M.E. | Fr. | Corvallis |
| Wood, Eula Mabel | Com. | Spec. | Corvallis |
| Wood, Mac Jr. | Com. | Fr. | North Powder |
| Woodcock, Roscoe Buckingham | Com. | Fr. | Bellfountain |
| Woodford, Florence | Com. | Fr. | The Dalles |
| Woodin, Stephen Sutcliffe | E.E. | Fr. | Grants Pass |
| Woodruff, Clinton V. | Com. | Fr. | Salem |
| Woods, Donald Mason | Ch.E. | Fr. | Cottage Grove |
| Woods, Harold | E.E. | Soph. | Medford |
| Woods, Sylvia Beryl | Phar. | Sr. | Corvallis |
| Woodward, Alfred Howard | C.E. | Fr. | Corbett |
| Woodward, Sleanor | H.Ec. | Soph. | Portland |
| Woodward, Laurence Ridley | Agri. | Fr. | Arago |
| Woodward, Mary | H.Ec. | Sr. | Portland |
| Woody, James | Agri. | Voc. | St. Louis, Mo. |
| Woolery, Cassandra Lewis | H.Ec. | Fr. | Arcadia, Cal. |
| Woolery, Virginia Cleveland | H.Ec. | Sr. | Arcadia, Cal. |
| Woolison, Clifford Martin | Agri. | Voc. | Victoria, B. C. |
| Woolley, Ray Laurel | E.E. | Jr. | Cottage Grove |
| Wooster, Helen Inez | Com. | Fr. | Portland |
| Wrenn, Roberta Baxter | H.Ec. | Fr. | Milwaukie |
| Wright, Anna Pearl | H.Ec. | Spec. | Portland |
| Wright, Charles Curry | Phar. | Soph. | Portland |
| Wright, Charner Leon | C.E. | Soph. | Marshfield |
| Wright, Clyde E. | C.E. | Sr. | Portland |
| Wright, Ernest | For. | Jr. | Portland |
| Wright, Georgia | H.Ec. | Jr. | Union |
| Wright, John Clark | M.E. | Fr. | La Grande |
| Wright, Sarah Louise | Agri. | Spec. | British Columbia |
| Wyland, Ray | Agri. | Voc. | Broadbent |
| Wylie, Wm. George | Com. | Fr. | Corvallis |
| Yadon, Charles M. | E.E. | Soph. | Klamath Falls |
| Yancey, Hazel Adeline | Com. | Soph. | Prineville |

SPECIAL MUSIC STUDENTS

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| <i>Name</i> | <i>Curriculum</i> | <i>Rank</i> | <i>Home Address</i> |
|---------------------------|-------------------|-------------|---------------------|
| Yantis, La Velle | H.Ec. | Fr. | Corvallis |
| Yantis, Luther | Mines | Jr. | Corvallis |
| Yeh, Chi Young | E.E. | Soph. | China |
| Yelverton, Helen | H.Ec. | Soph. | Olympia, Wash. |
| Yerington, Myles | C.E. | Jr. | Portland |
| Yerington, Ruby | Com. | Spec. | Portland |
| Yexley, Fern Margaret | Com. | Fr. | Oregon City |
| Yocum, Clarence Edward | Agri. | Spec. | Ballston |
| Yocom, Roy O. | Com. | Spec. | Wenatchee, Wash. |
| Yoe, Gladys Margaret | H.Ec. | Fr. | Portland |
| Yonish, Marion Harold | I.A. | Spec. | Mosier |
| York, Converse Hiatt | Agri. | Fr. | Chino, Cal. |
| York, Ralph Lee | M.E. | Sr. | North Powder |
| Young, David R. | Com. | Jr. | Portland |
| Young, George A. | Agri. | Voc. | Enid, Okla. |
| Young, Howard Harold | M.E. | Jr. | Mt. Solo, Wash. |
| Young, Howard Harris | Agri. | Voc. | Kewanee, Ill. |
| Young, James Truecross | C.E. | Fr. | Portland |
| Young, John Owen | Com. | Fr. | Madras |
| Young, John Walter | Agri. | Spec. | Toronto, Canada |
| Young, Leonard Roswell | Pahr. | Fr. | Chicago, Ill. |
| Young, Mae Adeline | Com. | Soph. | Astoria |
| Young, Maurice Davenport | Agri. | Voc. | Portland |
| Young, Richard Alfred | M.E. | Fr. | Madras |
| Young, Ruth Alice | | Opt. | Hood River |
| Younger, Stanley Walter | Phar. | Spec. | Canyon City |
| Yunker, Edwin Arthur | M.E. | Jr. | Gresham |
| Zahller, Newton Franklin | E.E. | Fr. | Brogan |
| Zaterfelt, Hildegard Alma | Com. | Fr. | Portland |
| Zell, Kenneth Martin | Mines | Soph. | Salem |
| Zeller, Philip James | Com. | Soph. | Portland |
| Zeller, Rudolph Anton | Phar. | Fr. | Portland |
| Ziegler, Herbert M. | Com. | Soph. | White Salmon, Wash. |
| Zimmerdahle, Frank W. | I.A. | Sr. | Clatskanie |

SPECIAL MUSIC STUDENTS 1921-22

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|------------------------|---------------|---------------------|
| Allen, John Jr. | Saxophone | Corvallis |
| Atwood, Margaret | Piano | Corvallis |
| Atwood, Dorothy | Piano | Corvallis |
| Axtell, Beulah | Violin | Corvallis |
| Bates, Clarence C. | Clarinet | Corvallis |
| Bowden, Florence | Organ | Corvallis |
| Brigham, Mrs. | Voice | Corvallis |
| Brodecky, Marie A. | Piano | Portland |
| Broders, Loretta M. | Piano | Corvallis |
| Bullis, Lawrence | Saxophone | Corvallis |
| Cate, Kenneth | Saxophone | Corvallis |
| Chaney, Juanita | Harmony | Corvallis |
| Christianson, Clifford | Cornet | Corvallis |
| Coleman, Anna | Piano | Corvallis |
| Coopey, Raymond | Cornet | Corvallis |
| Corbett, Ruth L. | Piano | Corvallis |
| Cramer, Rae | Harmony | Corvallis |
| Culp, Vera | Piano | Corvallis |
| Dement, Lois. Mrs. Jr. | Piano | Corvallis |
| Denniston, Nell May | Voice | McMinnville |
| Dew, Evelyn | Piano | Medford |
| Dinwoodie, Elizabeth | Violin | Corvallis |
| Dunn, North Edward | Clarinet | Corvallis |
| Elam, Ivan | Violin | Corvallis |
| Elliott, Eunice | Piano | Corvallis |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|--------------------------------|--------------------|---------------------|
| Etchells, Florence | Piano | Portland |
| Fitzgerald, Mrs. Leah R. | Voice | Eugene |
| Funk, Donald | Voice | Enterprise |
| Gaskins, Carolyn | Piano | Corvallis |
| Gentle, Cartharine | Piano | Monmouth |
| Gerding, Elizabeth Helen | Piano | Corvallis |
| Guthrie, Doris | Piano | Corvallis |
| Hannaman, Manklin | Drums | Corvallis |
| Harlan, Alfred Floyd | Banjo | Corvallis |
| Hawley, Mrs. Edna T. | Piano | Corvallis |
| Holbrook, Floyd Jesse | Cornet | Corvallis |
| Hutchings, Mrs. Iva | Piano | Corvallis |
| Ingle, Jean | Saxophone | Corvallis |
| Ingle, Jeannette | Saxophone | Corvallis |
| Johnaon, Wanda | Voice | Corvallis |
| Kenney, Mrs. Katherine | Piano | Corvallis |
| Lambert, Mrs. Lena Ruth | Piano | Macleay |
| Lawton, Edward | Piano | Corvallis |
| Layton, Rollan | Cornet | Corvallis |
| Leach, Jane | Piano | Corvallis |
| Leach, James | Piano | Corvallis |
| Long, Lynn | Saxophone | Corvallis |
| Long, Merle | Cornet | Corvallis |
| McCoy, Flora Marie | Piano | Corvallis |
| McCurley, Herbert S. | Trombone | Corvallis |
| McDonald, Malcolm | Saxophone | Corvallis |
| McFadden, Cecilia | Piano | Corvallis |
| McGrath, Edward Arthur | Voice | Portland |
| Martin, Mary H. | Piano | Corvallis |
| Mollett, Bertha Edna | Violin | Corvallis |
| Mosby, Mary H. | Voice | Cottage Grove |
| Newton, Glenville | Piano | Corvallis |
| Nichols, Ambrose | Piano | Corvallis |
| Pardee, Shirley Harold | Guitar | Corvallis |
| Pope, George Albert | Clarinet | Corvallis |
| Prentiss, Robert | Piano | Corvallis |
| Reed, Ethel | Piano | Corvallis |
| Rickard, Edna | Piano | Corvallis |
| Rogers, Mrs. H. E. | Voice | Corvallis |
| Sexton, Holden | Cornet | Corvallis |
| Shepherd, Frank | Piano | Corvallis |
| Stewart, Mrs. Elizabeth | Pipe Organ | Corvallis |
| Sweeney, Mrs. A. F. | Composition | Corvallis |
| Taylor, John | Steel Guitar | Corvallis |
| Tulley, S. W. | Harmony | Corvallis |
| Wells, Bruce | Piano | Portland |
| Wood, Josephine | Piano | Boise, Idaho |
| Woodcock, Arthur M. | Banjo | Corvallis |
| Woodruff, Virginia | Piano | Junction City |
| Yeates, Jessie J. | Violin | Corvallis |
| Yocom, Rachael | Piano | Corvallis |

SUMMER SESSION STUDENTS

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|-------------------------|---------------|---------------------|
| Abbott, Christine | H.Ec. | Houston, Idaho |
| Aberg, John A. | I.A. | Doe Bay, Wash. |
| Ackley, Kenneth J. | Agri. | Chapman |
| Absher, Albert | Coll. | Corvallis |
| Adams, Russel M. | Coll. | Seattle, Wash. |
| Agee, Leta V. | Coll. | Corvallis |
| Aikens, Elta Mae | H.Ec. | Riddle |
| Akerson, Ethel | Com. | Junction City |
| Alcorn, Waldo A. | Coll. | Sitka, Alaska |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|-------------------------|---------------|---------------------|
| Alexander, Clyde M. | Voc.Ed. | Corvallis |
| Aliaga, Juan de | Agri. | Lima, Peru |
| Allen, Franklin E. | I.A. | Corvallis |
| Allen, Ona | Coll. | Corvallis |
| Anderson, Charles John | Coll. | Salem |
| Anderson, Edith | Com. | Portland |
| Anderson, Eline B. | Com. | Portland |
| Anderson, Ella | H.Ec. | Grants Pass |
| Anderson, Myron Ivan | Coll. | Corvallis |
| Anderson, Andres Arthur | Agri. | Hillsboro |
| Andrew, Walter Silas | Agri. | La Grande |
| Anglin, Jacob Floyd | Agri. | Myrtle Creek |
| Appleby, Mary | Com. | Milwaukie |
| Applegreen, Erskine C. | Agri. | Seattle, Wash. |
| Atwood, Hazel Julia | H.Ec. | Corvallis |
| Auten, Mertie | H.Ec. | Portland |
| Averill, William | Voc.Ed. | Gresham |
| Axtell, Beulah | Coll. | Corvallis |
| Backus, Helen May | Com. | Willamette |
| Bacon, James Leonard | Coll. | Castle Rock, Wash. |
| Bacon, Runa E. | Com. | La Grande |
| Bailey, Oscar A. | Agri. | Ferndale, Wash. |
| Ballard, Annetta | H.Ec. | Rickreall |
| Barker, Mrs. Blanche | H.E. | Salem |
| Barnes, Ruby K. | Coll. | Corvallis |
| Bartelt, Arthur Bernard | Agri. | Corvallis |
| Bates, Marjorie K. | Coll. | Corvallis |
| Baxter, Joseph W. | I.A. | Union |
| Beardsley, Florence E. | Coll. | Corvallis |
| Beatie, John Myers | Coll. | Oregon City |
| Beck, Borden F. | Coll. | Redmond |
| Beck, Mary Whipple | Coll. | Corvallis |
| Becker, Franklin R. | Voc.Ed. | Philomath |
| Beckwith, Clarence Elmo | Agri. | Olympia, Wash. |
| Bedynek, John | Voc.Ed. | Corvallis |
| Bell, Mrs. Dora | H.Ec. | Corvallis |
| Bendler, Georgina | H.E. | Cornelius |
| Bennett, Jess Joe | Agri. | Weston |
| Benson, Mrs. Orpah | H.Ec. | Corvallis |
| Beougher, Ethel Olive | Coll. | Albany |
| Bertholet, Anne Ely | H.Ec. | Spokane, Wash. |
| Bertsch, Violet | Com. | Corvallis |
| Binns, Kenneth Lee | Coll. | Corvallis |
| Bird, James H. | Coll. | Astoria |
| Bjorklund, David George | Agri. | Poulsba, Wash. |
| Black, William P. | Com. | Corvallis |
| Blanchard, Esther G. | Com. | Portland |
| Boeringa, John | Agri. | Concrete, Wash. |
| Bogen, Albert L. | Agri. | So. St. Paul, Minn. |
| Bollen, Mrs. Hildegard | H.Ec. | Corvallis |
| Boozer, Dorothy | Com. | Corvallis |
| Borrall, Bertha M. | H.Ec. | Medford |
| Bonge, Mrs. Edith | Com. | Corvallis |
| Bosard, James H. | Coll. | Roseburg |
| Bowden, Florence | Com. | Corvallis |
| Boyd, Zoe | Coll. | Winchester, Kan. |
| Brewer, Marcia Adora | H.Ec. | Corvallis |
| Brookhart, Marguerite | Coll. | McMinnville |
| Brown, Andrew J. | Coll. | Centralia, Wash. |
| Brown, Bernice E. | Com. | Corvallis |
| Brown, Gladys M. | H.Ec. | Corvallis |
| Brown, Marjorie Willard | Voc.Ed. | Salem |
| Brown, Ruth Mae | Voc.Ed. | Salem |
| Bruce, Sadie | Com. | McMinnville |
| Brumbaugh, Madeline | H.Ec. | Corvallis |
| Buchanan, F. G. | I.A. | Gladstone |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|--------------------------|---------------|---------------------|
| Buchanan, Fred H. | I.A. | McMinnville |
| Buckley, Irene | Coll. | Corvallis |
| Bull, Elsie | Coll. | Auburn, Wash. |
| Bungor, Mrs. Leona | Coll. | Fruitland, Idaho |
| Bungor, N. C. | I.A. | Fruitland, Idaho |
| Burch, Edith E. | Com. | Rickreall |
| Burke, Eulalie | Coll. | Walla Walla, Wash. |
| Burnap, Florence | H.Ec. | Corvallis |
| Bushnell, Watrous F. | Coll. | Portland |
| Buxton, Mrs. Orla | H.Ec. | Corvallis |
| Calbreath, Hazel | Coll. | Independence |
| Campbell, Ruby | H.Ec. | Puyallup, Wash. |
| Carlson, Enoch B. | Agri. | Portland |
| Carlson, Harry Alixes | Agri. | Mt. Vernon, Wash. |
| Carlyle, Mildred | H.Ec. | Forest Grove |
| Caruthers, Albert Marion | Agri. | Corvallis |
| Carvalho, Mrs. Daisy | Coll. | Wilbur |
| Chamberlain, Phoebe Mae | H.E. | Corvallis |
| Chambers, Harriet E. | H.Ec. | Chicago, Ill. |
| Chandler, Gladys E. | Coll. | Sheridan |
| Chapman, Margaret | Voc.Ed. | Sheridan |
| Charlston, Gus Adolph | Coll. | Portland |
| Chrisman, Caz S. | Agri. | Corvallis |
| Christensen, Hazel | H.Ec. | Portland |
| Cifre, Guillermo C. | Coll. | Pollema, Spain |
| Claque, Marietta | H.Ec. | Anaconda, Mont. |
| Clark, Thomas Bricker | Agri. | Council, Idaho |
| Cleverdon, Edmund G. | Agri. | Eugene |
| Cobb, Helen-Louise | Coll. | Corvallis |
| Cole, Clara A. | H.Ec. | Husson, Wash. |
| Collins, Catherine M. | Com. | Corvallis |
| Coleman, Herbert Sidney | Agri. | Estacada |
| Colthart, Mrs. R. L. | H.Ec. | Corning, Cal. |
| Colthart, Robert L. | Coll. | Corning, Cal. |
| Cook, James Allie | Agri. | Ashland |
| Copeland, Alvin Silas | Coll. | Corvallis |
| Copeland, Herbert W. | Com. | Shaniko |
| Corenbaum, Jack | Coll. | Pawtucket, R. I. |
| Corey, Helen A. | H.Ec. | Salem |
| Cowan, Naomi | H.Ec. | Portland |
| Cramer, Noah A. | Agri. | Corvallis |
| Crawford, H. H. | Coll. | Boardman |
| Crim, Roy F. | Coll. | Portland |
| Crouter, Paul H. | Coll. | Prairie City |
| Crowell, Newton | Coll. | Guide Rock, Neb. |
| Cummings, Jay Wilson | Com. | Corvallis |
| Dakin, Esther E. | Com. | Milton |
| Dallas, Hazel | Coll. | Corvallis |
| Dallas, Neva | Coll. | Corvallis |
| Davis, Berkeley A. | Coll. | Corvallis |
| Davis, Corbett James | Coll. | Gresham |
| Davis, Edna | H.Ec. | Los Angeles, Cal. |
| Davis, Lulo Ann | H.Ec. | Santa Cruz, Cal. |
| Davis, Martha | H.Ec. | Los Angeles, Cal. |
| Davis, Wilfred Dolfe | Coll. | Milwaukie |
| Dawson, Paul Curtis | Agri. | Albany |
| DeLasaux, Cecil I. | Coll. | Albany |
| Demmon, Alice E. | Coll. | Butte, Mont. |
| Dickinson, Cameron T. | Agri. | Portland |
| Didtel, Kathryn | H.Ec. | Riddle |
| Dixon, Mrs. Belva | Com. | Corvallis |
| Dobell, Lynette W. | Coll. | Corvallis |
| Dodge, Seth B. | Com. | Newberg |
| Domingo, Ladislao L. | Agri. | Sta. Maria, P. I. |
| Duncan, Miriam | Coll. | Corvallis |
| Dougherty, Ralph Preston | Coll. | Corvallis |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|--------------------------------|---------------|---------------------|
| Drown, Ashley M. | Agri. | Corvallis |
| Duncan, Vernon P. | Com. | Corvallis |
| Edwards, Dorothy | H.Ec. | Monroe |
| Edmunds, Milton R. | Com. | McMinnville |
| Ellis, Lee | Coll. | La Grande |
| Elmer, Katherine Delphine | H.Ec. | Boise, Idaho |
| Engen, Minnie | Coll. | Patterson, Cal. |
| English, Charles E. | I.A. | Kent |
| English, Georgia | H.E. | Portland |
| English, Pennoyer F. | Coll. | Corvallis |
| Esch, Ernest Joseph | Agri. | Portland |
| Evans, Darrell P. | I.A. | Mosier |
| Everhart, Leslie E. | Coll. | Portland |
| Ezzell, Marvin A. | Agri. | Tuscon, Ariz. |
| Faruqi, Mumtaz | Coll. | Karual, India |
| Ferguson, Alice | H.Ec. | Walla Walla, Wash. |
| Ferguson, Natalie | H.Ec. | Walla Walla, Wash. |
| Findlay, Jean | Com. | Portland |
| Fishel, Esther L. | Coll. | Corvallis |
| Fitch, Naomi Olivia | H.Ec. | Ames, Iowa |
| Flint, Mildred | Coll. | Junction City |
| Flye, Arthur H. | Com. | Metzger |
| Foley, John Thomas | Coll. | Corvallis |
| Ford, Harriett M. | Coll. | Brighton |
| Foster, David Lawrence | Coll. | Corvallis |
| Foster, Lucile A. | Com. | Corvallis |
| Fountain, James L. | Coll. | Waterville |
| Frease, Hazel | H.Ec. | Corvallis |
| Frease, Helen | H.Ec. | Corvallis |
| Frease, Katheryn G. | H.Ec. | Corvallis |
| Freeman, Rollie | Agri. | Ashland |
| French, Lawrence | Coll. | Klamath Falls |
| Fulkerson, Evelyn | H.Ec. | Boise, Idaho |
| Gallegly, Fred A. | Coll. | Nyssa |
| Ganoe, Donald J. | Agri. | Corvallis |
| Gaona, Elipido D. | Coll. | Barnotan, P. I. |
| Garber, Hazel | H.Ec. | Nampa, Idaho |
| Gerdes, Harry L. | Agri. | North Yakima, Wash. |
| Goff, Lorena | H.Ec. | Corvallis |
| Goudy, Elmer R. | Com. | Portland |
| Gregson, Agnes | H.Ec. | Scio |
| Gribskov, Valborg | H.Ec. | Junction City |
| Griffin, Grey R. | Agri. | Springfield |
| Grimshaw, Jean B. | H.Ec. | Anaconda, Mont. |
| Grow, Homer W. | Coll. | Corvallis |
| Gwin, Mable | H.Ec. | La Center, Wash. |
| Gwin, B. Newton | Coll. | La Center, Wash. |
| Hadley, Laura | Coll. | Walla Walla, Wash. |
| Hague, R. J. | Agri. | Corvallis |
| Hahn, Rose Marie | H.Ec. | Corvallis |
| Hale, Ralph I. | Agri. | Ontario, Cal. |
| Hall, Bertha T. | Com. | Corvallis |
| Hall, Marguerite | H.Ec. | Albany |
| Hall, Oliver Thomas | Coll. | Portland |
| Hall, Phila H. | H.Ec. | Corvallis |
| Haller, John W. | Com. | Twin Falls, Idaho |
| Hamid, C. A. | Coll. | India |
| Hamlin, Ava | H.Ec. | Corvallis |
| Hansell, Mildred | Coll. | Corvallis |
| Hanshew, Marion A. | Com. | Corvallis |
| Hansen, Lillian | Coll. | Minneapolis, Minn. |
| Haronn, Frank W. | Com. | Portland |
| Harper, Mamie | H.Ec. | Corvallis |
| Harris, James William | Agri. | Sunnyside, Wash. |
| Harrison, Marion A. | Coll. | Brownsville |
| Harris, Herbert Allen | Coll. | Corvallis |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|---------------------------|---------------|------------------------|
| Hathaway, O. E. | Com. | Corvallis |
| Hawk, Ralph Ellsworth | Agri. | Bellingham, Wash. |
| Hazen, Winnifred | H.Ec. | Snohomish, Wash. |
| Heckart, Vera Ann | H.Ec. | Corvallis |
| Heikka, Hillie F. | Agri. | Kelso, Wash. |
| Heller, Anna E. | H.Ec. | Spokane, Wash. |
| Helm, George D. | Coll. | Corvallis |
| Henderson, Gene | Com. | Waterville, Wash. |
| Henry, Donna Belle | Com. | Salem |
| Herlihy, Lester Barry | Coll. | Corvallis |
| Herse, Bertha E. | Coll. | Corvallis |
| Hershner, Frances Marion | Coll. | Portland |
| Heslen, James M. | Agri. | Corbett |
| Hillman, Bertha | Coll. | Portland |
| Hinchliff, Paul | Coll. | New Plymouth, Idaho |
| Hinshaw, Virgil V. | Coll. | Newberg |
| Hochstetler, Simon M. | Agri. | Woodburn |
| Hochstetler, Minerva | H.Ec. | Hubbard |
| Hoffman, Jake B. | I.A. | Corvallis |
| Hoffman, Myrtle | Coll. | Bacona |
| Hogshire, Joann | H.Ec. | Portland |
| Holmes, Genevieve | Coll. | Corvallis |
| Hoover, Bessie E. | H.Ec. | Albany |
| Hoover, Charles Robert | Agri. | Chase, Mich. |
| Horst, Claude W. | I.A. | Portland |
| Houk, Guy | Agri. | Grizzly |
| Houser, Jacob Jackson | Com. | Alsea |
| Hout, Emily | Coll. | Corvallis |
| Hout, Lillian | Coll. | Corvallis |
| Howe, John Wendell | Agri. | Oakland, Cal. |
| Howland, William Isaac | Agri. | Newberg |
| Hudson, Will H. | I.A. | Raymond, Wash. |
| Hughson, Elizabeth | H.Ec. | Corvallis |
| Hull, Bruce H. | Coll. | Mayville |
| Hull, Edward B. | Agri. | Hoskins |
| Hulsey, Homer Montgomery | Coll. | Salem |
| Hunstock, Parham I. | Coll. | Baker |
| Hurd, Clara E. | H.Ec. | Corvallis |
| Hurburt, Blanche | Coll. | Corvallis |
| Hursh, Mabel | H.Ec. | Portland |
| Ingle, Jean | Music | Corvallis |
| Ingle, Jeannette | Music | Corvallis |
| Jackson, Charles A. | Agri. | Corvallis |
| Jackson, Dean B. | Com. | Baker |
| Jackson, Eldon E. | Coll. | Middleton, Idaho |
| Jackson, Emily | H.Ec. | Corvallis |
| Jacobson, Alena | H.Ec. | Portland |
| Jaques, Marshall B. | I.A. | Winona, Wash. |
| James, Mrs. Laurie Wilson | Coll. | Corvallis |
| Jennings, Richard | Com. | Portland |
| Jenks, Jessie S. | H.Ec. | Tangent |
| Jennings, Charles A. | I.A. | Portland |
| John, David Morris | Coll. | Corvallis |
| John, Helen | Com. | Corvallis |
| Johnson, Bertha R. | Com. | Spokane, Wash. |
| Johnson, Ivur | I.A. | Winlock, Wash. |
| Johnson, Ruth M. | Coll. | Portland |
| Johnson, Frank Edward | Agri. | Peachland, B. C., Can. |
| Johnson, Wanda Linn | Com. | Corvallis |
| Johnston, Jane A. | H.Ec. | Corvallis |
| Jones, Mary Emma | H.Ec. | Portland |
| Jones, M. Genevieve | H.Ec. | Oregon City |
| Jordan, Charles Leland | Coll. | Whittier, Cal. |
| Joy, Kenneth Dayton | Coll. | Portland |
| Juttner, Mrs. Doris | Com. | Corvallis |
| Kammerer, Arleigh Roberta | Coll. | Corvallis |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|-------------------------------|---------------|------------------------|
| Kellogg, Ethel A. | Com. | White Bluffs, Wash. |
| Kellogg, Wallace | Coll. | White Bluffs, Wash. |
| Kennedy, David H. | Coll. | Portland |
| Keyt, Lucille | H.Ec. | Perrydale |
| Kilham, Oliver F. | Coll. | Newberg |
| Kilham, Mrs. Oliver F. | H.Ec. | Newberg |
| Kime, Francis Willard | Com. | Corvallis |
| Kimmell, Walter Wm. | Coll. | Redding, Cal. |
| Kirkpatrick, Harlan T. | Coll. | Portland |
| Kitching, Mrs. Essie S. | H.Ec. | Hansen, Idaho |
| Kittredge, Marie | H.Ec. | Silver Lake |
| Klobucher, Emma | H.Ec. | Opportunity, Wash. |
| Klobucher, Marguerite | Coll. | Opportunity, Wash. |
| Knips, Clara | H.Ec. | Grants Pass |
| Knoll, Paul K. | Coll. | Corvallis |
| Komm, Alice P. | Coll. | Yakima, Wash. |
| Koschnitzky, Walfred | Agri. | Corvallis |
| Kreuger, Hans Luie | Coll. | Corvallis |
| Kyler, Dorothy | Coll. | Corvallis |
| Lacey, Francis | Coll. | Corvallis |
| Lafranchi, Alfred | Com. | Corvallis |
| Lamson, Maude E. | H.Ec. | Cottage Grove |
| Lane, Bernice | Com. | Corvallis |
| Lane, Mrs. James S. | H.Ec. | Seattle, Wash. |
| Lane, James S. | Coll. | Seattle, Wash. |
| LaPine, Ernest | I.A. | Portland |
| Layton, Clorin | Com. | Corvallis |
| Layton, Dora | Coll. | Corvallis |
| Leech, Sara Olive | H.Ec. | Berkeley, Cal. |
| Leslie, R. R. | Agri. | Los Angeles, Cal. |
| Levy, Ethel | Coll. | Oakland, Cal. |
| Lewis, Mary Adele | Coll. | Corvallis |
| Lindberg, Frances | H.Ec. | Warren, Minn. |
| Link, Chester | Agri. | Goble |
| Long, Spencer Wm. | Agri. | Corvallis |
| Loomis, Mrs. Minnie | H.Ec. | Melba, Idaho |
| Luch, Anna Louise | H.Ec. | Vancouver, Wash. |
| Luebke, B. H. | Coll. | Corvallis |
| Luebke, James | I.A. | Corvallis |
| Lyne, Phyllis | H.Ec. | Criston, B. C., Canada |
| McBride, Winifred | H.Ec. | Eddyville |
| McCain, Isla M. | H.Ec. | Corvallis |
| McCormick, Herman | Coll. | Corvallis |
| McCourt, Edith | H.Ec. | Albany |
| McCoy, Flora Marie | Coll. | Corvallis |
| McDermont, Chapman | Agri. | Twin Falls, Idaho |
| McDonald, John A. | Coll. | Nyssa |
| McDowell, Dorothy Evelyn | Voc.Ed. | Redmond |
| McEachern, Marion Janet | Coll. | Portland |
| McFadden, Mary M. | Coll. | Corvallis |
| McFarland, Georgia | Coll. | Caldwell, Idaho |
| McGonigle, Asa C. | Agri. | Auburn, Wash. |
| McIntosh, Fay | Com. | Corvallis |
| McKellips, Herald | Coll. | Lowell, Wash. |
| McLaughlin, Vera Ethel | Coll. | Corvallis |
| McNab, Edith | H.Ec. | San Francisco, Cal. |
| Maag, Esther | Coll. | Salem |
| Maggini, Fred | I.A. | Sheridan |
| Mason, Ida Stevens | Coll. | Elgin |
| Mathes, Clarence LeRoy | Coll. | Portland |
| Mathews, Erick Nelson | Agri. | Prosser, Wash. |
| Maxwell, J. Ellis | Coll. | Galt, Cal. |
| Mays, Chancy Robert | Agri. | Corvallis |
| Meloy, Kathleen O. | Coll. | Corvallis |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|---------------------------------|---------------|---------------------|
| Mentzer, Alta B. | Coll. | Corvallis |
| Mettie, Mossie | Com. | Ukiah |
| Mettie, Zena | Coll. | Ukiah |
| Metzler, Ivan R. | Voc.Ed. | Corvallis |
| Miller, Alta L. | H.Ec. | Prosser, Wash. |
| Miller, Conrad | Agri. | Portland |
| Miller, Eula E. | H.Ec. | Corvallis |
| Miller, Johnnie | Agri. | Drain |
| Miller, Mrs. Maude | Com. | Corvallis |
| Miller, Milton Marion | Coll. | Corvallis |
| Mills, Camilla | H.Ec. | Forest Grove |
| Milne, Donald Lawson | Coll. | Seattle, Wash. |
| Mize, Katie | H.Ec. | Corvallis |
| Moench, Ruby R. | H.Ec. | Albany |
| Mooney, Thomas Francis | Agri. | Clackamas |
| Moore, Chester Drake | I.A. | Sutter, Cal. |
| Moore, Mrs. Edna Newbert | H.Ec. | Sutter, Cal. |
| Moore, Ernest F. | Agri. | Turner |
| Marcom, Etta | H.Ec. | Corvallis |
| Morgan, Harrison T. | Agri. | Ashland |
| Morgan, Nellie | Coll. | Corvallis |
| Morgan, Ralph L. | Voc.Ed. | Union |
| Morse, Clara | Coll. | Spokane, Wash. |
| Morse, Donald W. H. | Com. | Seattle, Wash. |
| Martin, Sophia M. | Coll. | Goldthwaite, Texas |
| Mulligan, Wm. P. | Agri. | Seattle, Wash. |
| Munson, Florence E. | H.Ec. | Canby |
| Murray, Ruth Jean | Coll. | Corvallis |
| Myers, George | Coll. | Corvallis |
| Nelson, Bernice I. | H.Ec. | Corvallis |
| Nelson, Francis Andrew | I.A. | Mosier |
| Newton, Dorothy M. | Com. | Corvallis |
| Nichols, Mrs. Juanita | H.Ec. | Vashon, Wash. |
| Nichols, Walter Robert | Coll. | Vashon, Wash. |
| Nielson, Ida Louise | Coll. | Mosier |
| Nye, Stephen G. | Com. | Medford |
| Nye, Thurston M. | Coll. | Monroe |
| Oakes, Inez L. | Com. | Berwyn, Neb. |
| Olson, Anna V. | Coll. | Vancouver, Wash. |
| Olson, O. T. | Coll. | Philomath |
| Orner, Leta | Com. | Corvallis |
| Orr, George David | Voc.Ed. | Corvallis |
| Osborne, Gifford Lawson | Coll. | Aurora |
| Ostman, Anna M. | Agri. | West Linn |
| Ostman, Thure | Agri. | West Linn |
| Ouderkirk, Cecil | Agri. | Goble |
| Owens, Forest | I.A. | Helena, Mont. |
| Pardue, Robert M. | Agri. | Yocum |
| Parent, Mrs. Ethel F. | Coll. | Grants Pass |
| Patchin, Julia Harriet | Voc.Ed. | Salem |
| Patchin, Nellie E. | Com. | Salem |
| Patterson, Vincent Millar | Agri. | Eugene |
| Pattin, Ruth | H.Ec. | Klamath Falls |
| Patton, Mrs. Mary I. | H.Ec. | Corvallis |
| Patton, Lyman William | Agri. | Corvallis |
| Paulson, Oscar I. | Voc.Ed. | Alsea |
| Peavy, Bradley A. | Coll. | Corvallis |
| Peavy, Mrs. G. W. | Coll. | Corvallis |
| Peil, Fay Elizabeth | H.Ec. | Corvallis |
| Pettersen, Aage Emil | Coll. | Astoria |
| Peterson, William R. | Com. | Corvallis |
| Phillips, Frank Lester | Agri. | Washington |
| Phillips, Myrtle Irene | H.Ec. | Lamont, Wash. |
| Piatt, Ida Frances | H.Ec. | Santa Monica, Cal. |
| Piatt, Wm. P. | Agri. | Corvallis |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|---------------------------|---------------|---------------------|
| Pickard, Archie Niel | Voc.Ed. | Corvallis |
| Pickle, Walter Ray | Agri. | Corvallis |
| Pietrok, Paul B. | Agri. | Stayton |
| Plog, Edna Louise | H.Ec. | Hood River |
| Pope, Ethel M. | H.Ec. | Billings, Mont. |
| Pratt, Ada Kingsley | Com. | Albany |
| Prince, A. H. | Agri. | Linnton |
| Quibilan, Guillermo | Coll. | Santa Maria, P. I. |
| Quibilan, Vincente Q. | Coll. | Santa Maria, P. I. |
| Quiner, John Hill | Coll. | Eugene |
| Quint, Alice E. | H.Ec. | Portland |
| Reck, Ernest L. | Agri. | Corvallis |
| Redden, Beth | Com. | Spokane, Wash. |
| Reeves, William Houston | Agri. | Hollister, Cal. |
| Reinhard, Carl Buffunn | Agri. | Corvallis |
| Renshaw, Elizabeth | H.Ec. | Anaheim, Cal. |
| Resing, J. Lucille | Coll. | Portland |
| Ressler, Mrs. E. D. | Coll. | Corvallis |
| Reymo, Corlas Aurelio | Coll. | Lima, Peru |
| Reynolds, Joe A. | Coll. | La Grande |
| Rich, Vida N. | Com. | Seward, Alaska |
| Ridings, Earl A. | Agri. | Portland |
| Richardson, Vida | Com. | Corvallis |
| Richter, Ruth R. | Coll. | Portland |
| Rickard, Margaret | H.Ec. | Corvallis |
| Ritter, Viola Margaret | Voc.Ed. | Pasadena, Cal. |
| Rix, Sara | H.Ec. | Umatilla |
| Roberts, Lee J. | Coll. | Corvallis |
| Roberts, Mary M. | H.Ec. | Ritzville, Wash. |
| Robinson, Jennings Bryson | Agri. | Corvallis |
| Robinett, Jesse | I.A. | Corvallis |
| Rollman, Lawrence Thomas | Coll. | Olympia, Wash. |
| Rosoff, Esther | H.Ec. | Palestine |
| Rouse, Delbert Lawrence | Agri. | Elmira |
| Rydell, Ethel | Com. | Willamina |
| Rydell, Walter | Com. | Elkton |
| Sand, J. K. | Com. | Corvallis |
| Sandon, Grace | H.Ec. | Corvallis |
| Sandon, Katherine | Coll. | Corvallis |
| Sakrison, Carl Henning | I.A. | Portland |
| Schaefer, George Stephen | Agri. | Mt. Angel |
| Schiffer, Vera V. | Coll. | Forest Grove |
| Schlehuber, John | Agri. | Corvallis |
| Schleunes, Hilda | Coll. | Portland |
| Schloth, Albert J. | Coll. | Oregon City |
| Schwiening, H. Walter | Coll. | Corvallis |
| Sharp, James S. | Agri. | Portland |
| Shelton, Frank Emerson | Com. | Freewater |
| Scott, Florence E. | Coll. | Corvallis |
| Scott, Jennie R. | Coll. | Corvallis |
| Scott, Mary R. | Coll. | Corvallis |
| Scudder, Ella Winslow | Voc.Ed. | Seattle, Wash. |
| Scudder, Jay W. | Voc.Ed. | Seattle, Wash. |
| Seehafer, Margaret Anna | Coll. | Corvallis |
| Schureman, Earl | Agri. | Americus, Kansas |
| Self, Nora | H.Ec. | Camas, Wash. |
| Sellinger, Cecil Trumen | I.A. | Mosier |
| Settlemier, Minnie E. | Com. | Woodburn |
| Seymour, Elizabeth | H.Ec. | Forest Grove |
| Shaw, Charles G. | Coll. | Shedd |
| Shawe, Hamilton B. | Agri. | Corvallis |
| Sheikb, Khurshaid | Coll. | Paliada, India |
| Sherfy, Elma | H.Ec. | Corvallis |
| Sherfy, Reta Lena | H.Ec. | Corvallis |
| Sherfy, Vesta | H.Ec. | Corvallis |
| Sehrwood, Lucy M. | Com. | Corvallis |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|---------------------------------|---------------|---------------------|
| Shirley, Marguerite | Coll. | Weiser, Idaho |
| Shroyer, Roxana | H.Ec. | Portland |
| Simpson, Mrs. Dorothy | H.Ec. | Corvallis |
| Sims, Lona | H.Ec. | Corvallis |
| Slate, McLennen | Coll. | Albany |
| Smith, Almeda | Coll. | Portland |
| Smith, Hiram C. | Coll. | Redmond |
| Smith, Hortense Agatha | H.Ec. | Rock Island, Ill. |
| Smith, Lola Belle | Coll. | Corvallis |
| Smith, Mae | Coll. | Corvallis |
| Smith, Reaetta | Com. | McMinnville |
| Snidow, Harriet V. | Voc.Ed. | Willamette |
| Snow, Cecil C. | Coll. | La Grande |
| Sommers, Eugenia Hazel | Coll. | Corvallis |
| Son, May | Coll. | Corvallis |
| Sorber, David Wayne | Agri. | Corvallis |
| Spencer, Fay Lanora | Coll. | Bellingham, Wash. |
| Spencer, Mabel A. | Coll. | Bellingham, Wash. |
| Spiess, Adolph | Coll. | Milwaukie |
| Spiess, Henry R. | Coll. | Milwaukie |
| Starr, Peter M. | Agri. | Corvallis |
| Stearns, Howard Cecil | Coll. | Portland |
| Steinmacher, Dorothea | H.Ec. | Pittsburg, Pa. |
| Stephens, Jessie E. | Coll. | Hillsboro |
| Stevens, Eliza | Coll. | Portland |
| Stewart, Hazel Alice | H.Ec. | Albany |
| Stillion, Ernest M. | Agri. | Yakima, Wash. |
| Stone, Arthur Robert | Agri. | Grand Haven, Mich. |
| Strauss, Harriette H. | Coll. | Mosier |
| Struble, Frank H. | I.A. | Salem |
| Stuart, Julia Merle | Voc.Ed. | Portland |
| Sturgill, J. J. | Agri. | Philomath |
| Sullivan, Blanche Payne | H.Ec. | Vancouver, Wash. |
| Stutz, Lelia | H.Ec. | Corvallis |
| Sullenger, Charles Wesley | Agri. | Netarts |
| Sweek, Esther | Voc.Ed. | Corvallis |
| Sweeney, Elynore | Music | Corvallis |
| Sweeney, Mrs. | Music | Corvallis |
| Tallman, Ruth S. | H.Ec. | Calipatria, Cal. |
| Tatom, Mabel | Coll. | Philomath |
| Taylor, Herbert | Agri. | Corvallis |
| Thompson, C. D. | Coll. | Medford |
| Thompson, Louise | Coll. | Myrtle Point |
| Thompson, George Francis | Agri. | Corvallis |
| Thorner, Jessie B. | H.Ec. | Brookings, S. D. |
| Thurman, Lela | Music | Corvallis |
| Tinker, George H. | Agri. | Seattle, Wash. |
| Tippery, Jean | Coll. | Corvallis |
| Tonkin, Samuel | Agri. | Brownsville |
| Toomb, Frankie D. | Coll. | Wren |
| Turner, Joyce B. | H.Ec. | Ontario |
| Turner, Lee Stanford | Agri. | Caldwell, Idaho |
| Turnidge, Cora L. | Voc.Ed. | Sheridan |
| Turnidge, Laura Z. | Com. | Sheridan |
| Tuttle, Jean | Com. | Summerville |
| Utter, Mrs. Ruth P. | Com. | Woodburn |
| Vance, H. T. | Coll. | Corvallis |
| Vandecoevering, William J. | Agri. | Forest Grove |
| Van Groos, Doris A. | H.Ec. | Corvallis |
| Varney, George R. | I.A. | Corvallis |
| Varney, Lois | H.Ec. | Corvallis |
| Wade, Clara Phoebe | H.Ec. | Albany |
| Wade, Joseph Carroll | Agri. | Naheotta, Wash. |
| Wagener, Jessie | Com. | Portland |
| Wagner, Clara | Com. | Corvallis |
| Waite, Katherine Douglas | Coll. | Dixonville |

| <i>Name</i> | <i>Course</i> | <i>Home Address</i> |
|-----------------------------|---------------|---------------------|
| Wakefield, Arthur R. | I.A. | Forsyth, Mont. |
| Waldo, Fordyce L. | Coll. | Corvallis |
| Warfield, Edythe | H.Ec. | Corvallis |
| Waters, William Claude | Agri. | Seattle, Wash. |
| Weatherford, Annette | H.Ec. | Corvallis |
| Webster, Ray B. | Coll. | Corvallis |
| Weir, Dwight Arthur | Coll. | Corvallis |
| Wells, Andre | Coll. | Marcola |
| Wells, Ione T. | H.Ec. | Portland |
| West, Mrs. Emma | Coll. | Portland |
| Westering, Myrton | Com. | Portland |
| Whealdon, Marie Wolff | H.Ec. | Naselle, Wash. |
| Whealdon, Rowan | Coll. | Corvallis |
| Whidden, Thomas M. | Com. | Berkeley, Cal. |
| Whitaker, William C. | I.A. | Sacramento, Cal. |
| White, Frank | Agri. | Buell |
| White, Harold H. | Voc.Ed. | Kerby |
| White, Pauline | H.Ec. | Portland |
| Whobrey, James L. | Agri. | Jerome, Idaho |
| Wikberg, Martha | H.Ec. | Salem |
| Wilkins, Mitchell | Voc.Ed. | Coburg |
| Williams, Gladys | Com. | Portland |
| Williamson, Elsie Oren | H.Ec. | Stockton, Cal. |
| Wills, Bertha A. | H.Ec. | Ellensburg, Wash. |
| Wilson, Homer C. | Agri. | Corvallis |
| Wilson, Olive | H.Ec. | Yoncolla |
| Winkle, Kathleen | Coll. | College |
| Winn, Austin M. | Coll. | College |
| Winters, George | Coll. | College |
| Wise, Zina A. | Coll. | Portland |
| Withee, Florence | Coll. | Amity |
| Wood, Louise | H.Ec. | Worthington, Ohio |
| Wood, Lyle R. | Coll. | Mill City |
| Workinger, Ethel | Coll. | Corvallis |
| Wren, Dora | H.Ec. | Coarse Gold, Cal. |
| Wright, Anna Pearl | H.Ec. | Portland |
| Wright, Frances | H.Ec. | Corvallis |
| Wright, Georgia | H.E. | Union |
| Wright, Malcolm E. | Voc.Ed. | Corvallis |
| Wright, Mrs. Malcolm | H.Ec. | Dufur |
| Yates, Leota M. | Coll. | Corvallis |
| Young, George A. | Agri. | Nampa, Idaho |
| York, Ralph Lee | Com. | North Powder |
| Zevely, Alexander M. | Coll. | Moro |

CLUB BOYS AND GIRLS ATTENDING SUMMER SESSION

| <i>Name</i> | <i>County</i> | <i>Name</i> | <i>County</i> |
|------------------------|---------------|------------------------|---------------|
| Andregg, Walter | Multnomah | Barber, Cordis | Lane |
| Almroth, Harold | Columbia | Berry, Orval | Linn |
| Anderson, Delbert | Jackson | Brumbach, Ira | Malheur |
| Ager, Beth | Malheur | Barrows, Lester | Marion |
| Amidon, Lenore | Sherman | Bloom, Bessie | Marion |
| Ackley, Laverna | Tillamook | Bloom, Emeline | Marion |
| Averill, Barbara | Multnomah | Bowman, Carl | Multnomah |
| Bryson, Carrie | Clatsop | Brown, Henry Holt | Multnomah |
| Byron, Norma | Douglas | Barrell, Raymond | Multnomah |
| Bohnert, John | Jackson | Baker, Lavelle | Tillamook |
| Bunnell, Lloyd | Klamath | Blum, George | Tillamook |
| Buesing, Vesta | Klamath | Bodyfelt, Neil | Tillamook |
| Brothaneck, Rose | Klamath | Cate, Leland | Jackson |
| Briscoe, Ida | Klamath | Crapser, Fern | Klamath |
| Beasley, Roy | Klamath | Cheyne, Nellie | Klamath |
| Bruce, Evelyn | Lane | Cummings, Lester | Klamath |

| <i>Name</i> | <i>County</i> | <i>Name</i> | <i>County</i> |
|------------------------------------|---------------|----------------------------|---------------|
| Calhoun, Loren | Klamath | Koppisch, Velma | Clatsop |
| Cheyne, Alexander | Klamath | Kohlstrand, Vernar | Columbia |
| Cox, Edward | Lane | Keller, Lloyd | Columbia |
| Coxnutt, Dellis | Linn | Koenig, Thelma | Klamath |
| Chase, Wilma | Multnomah | Keeler, Everett | Lane |
| Carlson, Percy | Multnomah | Kaatz, Gordon | Lane |
| Crenshaw, Gerald | Tillamook | Knuts, Harold | Linn |
| Calkins, Hulda | Washington | Kirkpatrick, Howard | Multnomah |
| Cooper, Margaret | Lane | Kirkpatrick, Helen | Multnomah |
| Dimmitt, Neva | Klamath | Kaser, Alvin | Multnomah |
| Dawson, Lucille, | Klamath | Krake, Allen John | Tillamook |
| Dowling, Lucille | Linn | Lund, George | Columbia |
| Dannen, George | Linn | Liles, Marl | Lane |
| DeBord, Mildred | Malheur | Levero, Carl | Multnomah |
| Dunning, Elizabeth | Multnomah | Linthicum, Lorena | Multnomah |
| Dustin, Helen | Multnomah | Lynch, Leslie | Multnomah |
| Dollowitch, Agnes | Multnomah | Lynch, Harold | Multnomah |
| Ennis, Velma | Clatsop | Lund, Anna | Multnomah |
| Eastwood, Earnest | Klamath | Ludtke, George | Tillamook |
| Flackus, Ada | Klamath | Marshall, Leonard | Clackamas |
| Flory, Keith | Linn | Mattson, Elinor | Clatsop |
| Folry, Clayton | Linn | Moody, Elsie | Clatsop |
| Fitzgerald, Margaret | Multnomah | Michaels, Kathleen | Douglas |
| Fleming, John | Multnomah | Montgomery, Kathrine | Douglas |
| Freeman, Audry | Multnomah | Moore, Marieta | Hood River |
| Fitzjohn, Norma | Multnomah | McClay, Alma | Klamath |
| Fehrenbacher, Elizabeth, Multnomah | | Mack, Charles | Klamath |
| Guiley, Vida | Lane | Moon, Elva | Klamath |
| Grabill, Johnnie | Linn | McReynolds, Carl | Klamath |
| Gott, Norval | Linn | Myers, Earl | Lane |
| Gilkey, Allen | Linn | McNeil, Ralph | Linn |
| Gilkey, Marian | Linn | McNeil, Ruth | Linn |
| Grimes, Edgar | Linn | Malson, Ralph | Linn |
| Grimes, Lloyd | Linn | Miller, Lloyd | Linn |
| Grimees, Zena | Linn | Mullen, Emma | Linn |
| Gronquist, Edwin | Multnomah | Mullen, Floyd | Linn |
| Gallagher, Elizabeth | Multnomah | McConnell, Clarice | Linn |
| Gallagher, Virginia | Multnomah | McKinney, Mildred | Multnomah |
| Geinger, Lenhart | Tillamook | Murray, Isabel | Multnomah |
| Glad, Edwin | Tillamook | McCullough, Ralph | Multnomah |
| Hughes, Kenneth | Clackamas | Meyers, Henry | Multnomah |
| Hughes, Francis | Clackamas | Morgan, Bryan | Tillamook |
| Hughes, Icelia | Clackamas | Nelson, Rosie | Clatsop |
| Howard, Edgar | Douglas | Norton, Luceine | Lane |
| Hill, Olive | Klamath | Nelson, Wilmer | Multnomah |
| Hawkins, Dehlia | Klamath | Nelson, Leonard | Multnomah |
| Honsjik, Bessie | Klamath | Osterburg, Myrtle | Clatsop |
| Hill, Ralph | Klamath | Ostgard, Robert | Multnomah |
| Harden, Mary | Lane | Ogsbury, Gurdon | Multnomah |
| Howard, Harold | Lane | Pagenkopf, Lois | Clackamas |
| Holmes, Margaret | Linn | Perrin, Billy | Clackamas |
| Hammond, Hulda | Linn | Petrasek, Irene | Klamath |
| Harrang, Charlotte | Linn | Pratt, Catharine | Lane |
| Harrang, Leone | Linn | Parker, Carl | Malheur |
| Hill, Florence | Multnomah | Patch, Dennis | Malheur |
| Hisey, Helen | Multnomah | Poppleton, Catharine | Multnomah |
| Hanson, Evelyn | Multnomah | Price, Evelyn | Multnomah |
| Harris, Gwendolyn | Tillamook | Peterson, Archie | Multnomah |
| Hardman, Ralph | Washington | Quimby, Irene | Linn |
| Johnston, George | Malheur | Quimby, Ruth | Linn |
| Johnson, Audrey | Multnomah | Rife, Wilbur | Benton |
| Johnston, Lee | Malheur | Richey, Melville | Clackamas |
| Koch, Mildred | Clackamas | Raymond, Evelyn | Douglas |
| Koch, Lucien | Clackamas | Rodley, Irene | Clackamas |
| Kleinsmith, Margaret | Clackamas | Reed, Charles Ord | Jackson |
| Knappa, Lois | Clatsop | Robusteli, Emma | Klamath |

| <i>Name</i> | <i>County</i> | <i>Name</i> | <i>County</i> |
|---------------------------|---------------|---------------------------|---------------|
| Robustelli, Richard | Klamath | Taylor, Ross | Lane |
| Rust, Walter | Lane | Taylor, Harold | Lane |
| Roach, Rollie | Lane | Turner, Lester | Malheur |
| Roberts, Wilbur | Malheur | Tomlin, Archie | Maheur |
| Richey, Alice | Multnomah | Tooley, Clarence | Multnomah |
| Runtz, George | Multnomah | Tucker, Marjorie | Tillamook |
| Rees, Harry | Wasco | Trofitter, George | Washington |
| Stewart, Melvin | Clackamas | Trofitter, Margaret | Washington |
| Skaale, Jennie | Clatsop | Tooze, Lucile | Washington |
| Sture, Mamie | Clatsop | Vickers, Loyal | Linn |
| Snyder, Marguerite | Douglas | West, Mildred | Clatsop |
| Schreiner, Stella | Klamath | Wells, Nita | Douglas |
| Schort, Francis | Klamath | Wilcox, Eva | Klamath |
| Setzer, Stella | Klamath | Welch, Willetta | Klamath |
| Shuck, Maudie | Klamath | Wilcox, Doris | Klamath |
| Spolek, Rose | Klamath | Williams, Bryant | Klamath |
| Setzer, Anna | Klamath | Wilcox, Charles | Klamath |
| Short, Delia | Klamath | Wojnaik, Nellie | Lane |
| Scott, Mildred | Klamath | Wicks, Ida | Lane |
| Short, Dorothy | Klamath | Wicks, Walter | Lane |
| Short, Mary | Klamath | Williams, Carl | Linn |
| Stroud, Otehl | Lane | Williams, Sarah | Linn |
| Stroud, Edna | Lane | Williams, Helen | Linn |
| Sauer, Louie | Lane | Wells, Genevieve | Linn |
| Shelton, Donald | Linn | Winn, Ralph | Malheur |
| Spaulding, Royal | Linn | Wiencken, Audrey | Multnomah |
| Satchwell, Stanley | Linn | Wilson, Alfred | Polk |
| Scott, John | Linn | Williams, Kenneth | Tillamook |
| Shelton, Millard | Linn | Wiley, Lucia | Tillamook |
| Schildmeyer, Evelyn | Multnomah | Wiley, Muriel | Tillamook |
| Svennes, Karen | Multnomah | Williams, Nadine | Tillamook |
| Samuelson, Andrew | Multnomah | Willers, Elsie | Washington |
| Sappington, Vera | Tillamook | Young, Leslie | Tillamook |
| Tomlinson, Laura | Hood River | Zysett, Lona | Linn |

SUMMARIES OF ENROLLMENT, 1921-22
MEN AND WOMEN CLASSIFIED AS TO CURRICULUM
 (All duplicates excluded)

| <i>Course</i> | <i>Men</i> | <i>Women</i> | <i>TOTAL</i> |
|------------------------------------|------------|--------------|--------------|
| Agriculture | 838 | 18 | 856 |
| Commerce | 550 | 385 | 935 |
| Engineering: | | | |
| Civil | 163 | ..... | 163 |
| Electrical | 277 | ..... | 277 |
| Industrial Arts | 64 | ..... | 64 |
| Mechanical | 296 | ..... | 296 |
| Mines | 83 | ..... | 83 |
| Chemical | 79 | 2 | 81 |
| Forestry | 120 | ..... | 120 |
| Home Economics ..... | ..... | 573 | 573 |
| Military Science and Tactics | 8 | ..... | 8 |
| Pharmacy | 174 | 29 | 203 |
| Vocational Education | 25 | 73 | 98 |
| Optional | 4 | 72 | 76 |
| Music Only | 37 | 44 | 81 |
| Summer School | 476 | 550 | 1026 |
| Short Courses | 267 | 304 | 571 |
| Total | 3461 | 2050 | 5511 |

GEOGRAPHICAL DISTRIBUTION OF STUDENTS

| <i>States and Territories</i> | <i>Long Course Regular</i> | <i>Music</i> | <i>Summer Session</i> | <i>Short Courses</i> | <i>Total</i> |
|--------------------------------|--------------------------------|--------------|---------------------------|--------------------------|--------------|
| Oregon | 2766 | 79 | 879 | 538 | 4262 |
| Alaska | 8 | ..... | 2 | 1 | 11 |
| Arizona | 3 | ..... | 1 | 1 | 5 |
| California | 335 | 1 | 26 | 3 | 365 |
| Canal Zone | 1 | ..... | ..... | ..... | 1 |
| Colorado | 6 | ..... | ..... | ..... | 6 |
| District of Columbia | 2 | ..... | ..... | ..... | 2 |
| Hawaii | 3 | ..... | ..... | ..... | 3 |
| Idaho | 108 | ..... | 17 | 1 | 126 |
| Illinois | 17 | ..... | 2 | 2 | 21 |
| Indiana | 3 | ..... | ..... | ..... | 3 |
| Iowa | 11 | ..... | 1 | ..... | 12 |
| Kentucky | 2 | ..... | ..... | ..... | 2 |
| Kansas | 7 | ..... | 2 | ..... | 9 |
| Massachusetts | 5 | ..... | ..... | ..... | 5 |
| Maryland | 1 | ..... | ..... | ..... | 1 |
| Michigan | 5 | ..... | 1 | 1 | 7 |
| Minnesota | 4 | ..... | 3 | 1 | 8 |
| Missouri | 3 | ..... | ..... | ..... | 3 |
| Montana | 38 | ..... | 6 | 1 | 45 |
| Nebraska | 4 | ..... | 2 | ..... | 6 |
| Nevada | 1 | ..... | ..... | 1 | 2 |
| New Hampshire | 3 | ..... | ..... | ..... | 3 |
| New Jersey | 4 | ..... | ..... | ..... | 4 |
| New Mexico | 1 | ..... | ..... | ..... | 1 |
| New York | 4 | ..... | ..... | ..... | 4 |
| North Carolina | 1 | ..... | ..... | ..... | 1 |
| North Dakota | 1 | ..... | ..... | ..... | 1 |
| Ohio | 4 | ..... | 1 | ..... | 5 |
| Oklahoma | 3 | ..... | ..... | ..... | 3 |
| Pennsylvania | 5 | ..... | 1 | ..... | 6 |
| Philippine Islands | 15 | ..... | 4 | ..... | 19 |
| Rhode Island ..... | ..... | ..... | 1 | ..... | 1 |
| South Carolina | 1 | ..... | ..... | ..... | 1 |
| South Dakota | 1 | ..... | 1 | ..... | 2 |
| Tennessee | 2 | ..... | ..... | ..... | 2 |
| Texas | 6 | ..... | 1 | ..... | 7 |
| Utah | 3 | 1 | ..... | 1 | 5 |
| Virginia | 2 | ..... | ..... | ..... | 2 |
| Washington | 380 | ..... | 66 | 17 | 463 |
| West Virginia | 2 | ..... | ..... | ..... | 2 |
| Wisconsin | 4 | ..... | ..... | ..... | 4 |
| Wyoming | 4 | ..... | ..... | ..... | 4 |
| <i>Foreign Countries</i> | 3779 | 81 | 1017 | 568 | 5445 |
| Bolivia | 1 | ..... | ..... | 1 | 1 |
| Canada | 20 | 2 | 3 | 25 | 30 |
| China | 3 | ..... | ..... | 3 | 3 |
| Denmark | 3 | ..... | ..... | 3 | 3 |
| England | 3 | ..... | ..... | 3 | 3 |
| Hungary | 1 | ..... | ..... | 1 | 1 |
| India | 13 | 3 | ..... | 16 | 22 |
| Italy | 1 | ..... | ..... | 1 | 1 |
| Mexico | 1 | ..... | ..... | 1 | 1 |
| Norway | 1 | ..... | ..... | 1 | 1 |
| Palestine ..... | ..... | 1 | ..... | 1 | 1 |
| Peru | 1 | 2 | ..... | 3 | 4 |
| Russia | 1 | ..... | ..... | 1 | 1 |
| Scotland | 1 | ..... | ..... | 1 | 1 |
| Servia | 1 | ..... | ..... | 1 | 1 |
| South Africa | 1 | ..... | ..... | 1 | 1 |
| Spain ..... | ..... | 1 | ..... | 1 | 1 |
| Switzerland | 2 | ..... | ..... | 2 | 4 |
| Total | 54 | 9 | 3 | 66 | 66 |
| Total | | | | | 5511 |

COMPARATIVE ENROLLMENT

| | | | |
|---------|-----|---------|------|
| 1888-89 | 97 | 1905-06 | 735 |
| 1889-90 | 151 | 1906-07 | 833 |
| 1890-91 | 201 | 1907-08 | 1156 |
| 1891-92 | 208 | 1908-09 | 1352 |
| 1892-93 | 282 | 1909-10 | 1591 |
| 1893-94 | 240 | 1910-11 | 1778 |
| 1894-95 | 261 | 1911-12 | 2868 |
| 1895-96 | 397 | 1912-13 | 2314 |
| 1896-97 | 316 | 1913-14 | 2435 |
| 1897-98 | 336 | 1914-15 | 4176 |
| 1898-99 | 338 | 1915-16 | 3265 |
| 1899-00 | 405 | 1916-17 | 3798 |
| 1900-01 | 436 | 1917-18 | 3453 |
| 1901-02 | 488 | 1918-19 | 4086 |
| 1902-03 | 541 | 1919-20 | 4865 |
| 1903-04 | 530 | 1920-21 | 5170 |
| 1904-05 | 680 | 1921-22 | 5511 |

DEGREES CONFERRED, JUNE 5, 1922

| | | |
|---------------------------------|-----|-----|
| Master of Science: | | |
| In Agriculture | | 2 |
| Bachelor of Science: | | |
| In Agriculture | 99 | |
| In Commerce | 74 | |
| In Engineering: | | |
| Chemical Engineering | 14 | |
| Civil Engineering | 25 | |
| Electrical Engineering | 16 | |
| Industrial Arts | 4 | |
| Mechanical Engineering | 25 | |
| Mining Engineering | 12 | |
| | 96 | 96 |
| In Forestry | 11 | |
| In Home Economics | 86 | |
| In Military Science and Tactics | 1 | |
| In Pharmacy | 7 | |
| In Vocational Education | 14 | |
| | 388 | 388 |
| Graduate in Pharmacy | | 20 |
| Pharmaceutical Chemist | | 10 |
| Music Diploma | | 2 |
| Total | | 422 |

REGISTRATION TOTALS BY CURRICULUM AND CLASS

| | Vocational | Fr. | So. | Jr. | Sr. | Gr. | Sp. | TOTAL |
|---------------------------------|------------|-----|------|-----|-----|-----|--------|-----------|
| Agriculture | 206 | 140 | 150 | 152 | 102 | 20 | 86 | 856 |
| Commerce | 41 | 18 | 370 | 201 | 153 | 81 | 71 | 935 |
| Engineering: | | | | | | | | |
| Civil (Hy.&Irr.) | | 40 | 38 | 46 | 25 | 14 | 163 | |
| Electrical | | 107 | 77 | 63 | 21 | 1 | 277 | |
| Industrial Arts | | 13 | 10 | 20 | 5 | 16 | 64 | |
| Mechanical | 74 | 3 | 67 | 58 | 51 | 33 | 296 | |
| Mines | | 20 | 22 | 19 | 18 | 4 | 83 | |
| Chemical Engr. | | 26 | 18 | 17 | 14 | 6 | 81 | 964 |
| Forestry & Lg. E. | | 32 | 28 | 23 | 10 | 27 | 120 | |
| Home Economics. 18 .. | | 187 | 107 | 114 | 90 | 6 | 573 | |
| Military Sci.&Tc. | | 3 | 1 | 2 | 2 | | 8 | |
| Pharmacy | | 86 | 48 | 40 | 8 | 1 | 203 | |
| Vocational Educ. | | 31 | 20 | 20 | 15 | 4 | 98 | |
| Optional | | | | | | 76 | 76 | |
| Music only | | | | | | 81 | 81 | |
| | 339 | 21 | 1122 | 778 | 720 | 424 | 32 478 | 3914 |
| Summer Session | | | | | | | | 1026 |
| Farmers' Week | | | | | | | | 253 |
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| | | | | | | | | 1597 5511 |

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